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# NAVAL POSTGRADUATE SCHOOL

## Monterey, California



## THESIS

AN ANALYSIS OF THE CHANGE IN LABOR "CURRENCY"  
FROM WORKYEARS TO DOLLARS AT THE NAVAL  
POSTGRADUATE SCHOOL, MONTEREY

by

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June 1999

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**AN ANALYSIS OF THE CHANGE IN LABOR "CURRENCY" FROM  
WORKYEARS TO DOLLARS AT THE NAVAL POSTGRADUATE SCHOOL,  
MONTEREY**

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requirements for the degree of

**MASTER OF SCIENCE IN MANAGEMENT**  
from the

**NAVAL POSTGRADUATE SCHOOL**  
June 1999



## ABSTRACT

This thesis analyzes the effects of a Naval Postgraduate School policy decision made in FY 1997 that changed the fundamental unit of labor “currency” or budgetary controls from work years to dollars in three departments at the school: Systems Management, the Dudley Knox Library, and the Computer Center. How this change in currency influences the dynamics of the School’s labor allocation model, labor execution, and other related issues, is the focus of this study.

Interviews with the participants, a study of the labor allocation model and analysis of labor execution data on the three departments were conducted. The conclusions drawn from this data show that perceptions varied greatly about the goals and implementation of the policy change among the participants. This affected perceptions of success and failure of the policy change among the participants. In addition, NPS relies on a labor allocation model that varies substantially among these departments. The financial profile and workforce composition (e.g. faculty versus staff) delineates characteristic differences between staff departments such as the Dudley Knox Library and Computer Center, and an academic department, such as the Systems Management Department. This had a significant impact on the outcome of this policy change.



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## **I. INTRODUCTION**

### **A. BACKGROUND**

The 1997 Strategic Plan for the Naval Postgraduate School (NPS), Monterey called for increasing efficiency in operations at NPS. As part of that mandate, a change in currency policy was initiated in three departments at the school: Systems Management, the Dudley Knox Library, and the Computer Center. This was to be accomplished by changing the fundamental unit of “currency” or budgetary controls for labor from work years to dollars. The purpose of this change was to provide department heads more financial flexibility in operating their respective departments. This would then allow department heads to seek out efficiencies in their respective departments (e.g., optimizing job classification) that would save real dollars; savings could then be transformed in part into awards and incentives for faculty and staff, as well as reinvested in department infrastructures. The policy was implemented Schoolwide the following year. How this change in currency influences the dynamics of the labor allocation model, labor execution, and other related issues is the focus of this study.

### **B. RESEARCH QUESTIONS**

The following research questions were analyzed and evaluated during this thesis:

Primary: Did the change from workyear to dollar budgetary controls achieve the results anticipated by the initial participants in the policy change?

Secondary:

Who were the participants in the initial currency policy change?

How does the labor allocation model work and how was it affected by the policy change?

How are the incentives/disincentives for effective labor management affected by the change in budgetary controls?

What goals did participants expect from the policy change?

Was there a difference in the perceptions of success between superior and subordinate participants and between academic and support departments?

What other changes related to labor management might better allow the currency policy change to increase efficiency and generate savings within the departments?

## **C. METHODOLOGY**

The methodology used in this research consists of four main parts. First, standardized written surveys were given to personnel who participated in the labor currency policy change. Second, the model formula and execution data related to this transition were reviewed. Third, impacts of the change in the three test departments were identified. Fourth, conclusions were drawn on how the change influenced various stakeholders, incentives, and allocation methods.

## **D. SCOPE AND LIMITATIONS**

This thesis analyzes how the labor allocation model functions for both faculty and staff. Data from the labor model will be analyzed in this context. Testimonial data collected in survey responses will augment discussions on expectations,

incentives, and concerns about the change of currency policy.

## **E. ORGANIZATION OF STUDY**

The remainder of this thesis is divided into four chapters as follows:

### **Chapter II: BUDGET OVERVIEW**

This chapter will provide background on the budget climate within which the currency policy change was implemented.

### **Chapter III: LABOR ALLOCATION MODEL**

This chapter will describe how the model works and analyze model calculations.

### **Chapter IV: THE POLICY CHANGE**

This chapter will analyze the support departments, Computer Services a.k.a. Code 05, and the Library, as well as the academic department, Systems Management or SM, that participated in the policy change to determine how they were affected by the change.

### **Chapter V: CONCLUSIONS**

This chapter will draw conclusions about the policy change as a whole, in terms of stakeholder discussion, incentive discussion, and budget analysis.

## **F. SUMMARY**

The objective of this thesis is to provide the reader with an overall picture as to the change in policy, the participants, and the results. The final goal of the study is to provide useful information on how the labor allocation methodology and process change affected the departments and stakeholders at NPS, Monterey.



## II. BUDGET OVERVIEW

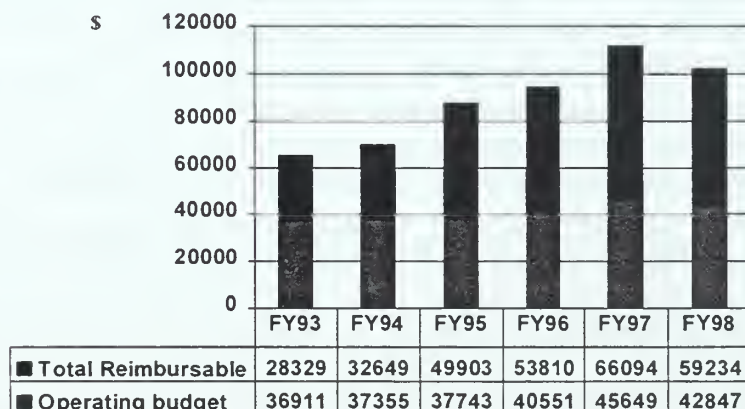
### A. BACKGROUND

The School receives funds for use during the fiscal year through two media, a direct operating budget/allotment and reimbursable orders/checks. FY 97 financial statements show an operating budget of \$45,649,000 and reimbursable orders/checks in the amount of \$66,094,000 as seen in Figure 1. Fifty-three percent of the total budget (operating plus reimbursable/checks) was spent on labor (\$59,579,000). This is the FY 97 labor cost according to the FY 93-98 Certified Budgets. FY 97 was the year the policy change was first implemented.



### NPS Mission Funding Profile

Source: FY 93-98 Certified Budgets(x \$1000)



Total Reimbursable includes Reimbursable Research (RR), Other Reimbursables (RM), Tuition, and Tenant Funding

Figure 1. NPS Mission Funding Profile.

At the beginning of the fiscal year, the Comptroller allocates the operating budget controls (Operations and Maintenance, Navy, or O&M, N) to the Academic Planning office (AP) for the schoolhouse operations. The AP distributes controls among the Deans, Chairs, and line managers and tracks execution throughout the year. This thesis addresses labor planning and the FY 97 transition from workyear to dollar allocations in the Academic area.

## **1. Fiscal Climate**

Funding for the FY97 operating budget was a critical area of concern for the School's upper management. The Superintendent at that time, Rear Admiral Evans, addressed her concerns in a letter to the Chief of Naval Operations (N09B) on January 7, 1997:

NPS arguments for funding all stem from an urgent need to maintain the quality of its programs and academic infrastructure at a level suitable to the advanced education of officers moving into the fast-paced technical world of the coming decades...NPS survived the budget cuts of the past several years by instituting a variety of internal reductions and efficiencies while attempting to preserve the quality of student education...In order to accommodate cuts...NPS has made a number of adjustments. These include, for instance, elimination of technology upgrades, cuts in faculty and support staff, a reduction in funding of ship time for oceanography students, elimination of most NPS elective courses, a termination of nonreimbursably funded distance learning, and reductions in the Navy's civilian graduate education program. In a phrase, NPS has zeroed its recapitalization expenditures in order to support current teaching needs (albeit even elective courses are being canceled); this is a plan for disaster.

NPS' difficult FY97 operating budget situation resulted in part from two developments: Other Procurement, Navy (OP, N) funds were eliminated from the School's budget, and the School absorbed larger than expected budget cuts during

the year. OP, N funds are marked for investment items. NPS had used OP, N dollars to maintain and upgrade equipment and facilities, including technology in the classrooms, laboratories, computing infrastructure, and other academic infrastructure needs. From a relative peak in 1992, OP, N funding steadily decreased until it was eliminated in 1996. With the loss of OP, N investment funding, the School's dilemma was how to balance operational needs with infrastructure requirements as shown in Figure 2.

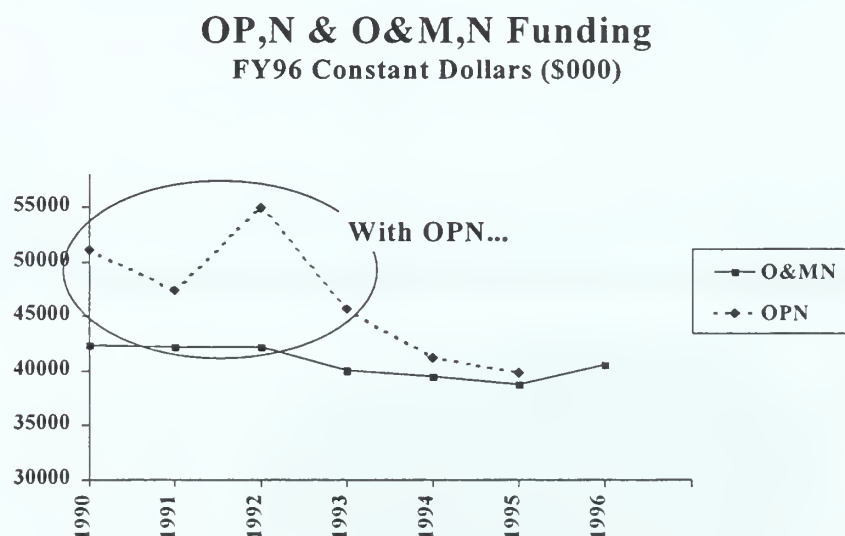


**Figure 2. OP,N & O&M,N Funding.**

In addition, NPS faced budget cuts during FY97. Historically, budgeted controls are subject to in-year cuts imposed in the first quarter of the fiscal year by Congress for the Navy reserves and for headquarters reserves. Reserves are held back as contingency funds. NPS experienced larger than expected reductions in FY 97 (\$3,042,000) and FY 98 (\$3,996,000) due to a specific congressional cut

targeted at professional development education (PDE) within DOD shown in Figure

3. The congressional cuts and reserves for FY 96 were \$1,554,000 in comparison.

| PDE and Reserves(\$000)            |                                    |                                    |
|------------------------------------|------------------------------------|------------------------------------|
| FY 97                              | FY 98                              | FY 99                              |
| • Congressional (PDE) •<br>-1,746  | • Congressional (PDE) •<br>-3,920  | • Congressional (PDE) •<br>0       |
| • Congressional (other) •<br>- 222 | • Congressional (other) •<br>- 986 | • Congressional (other) •<br>- 687 |
| • CNO Reserve<br>- 785             | • CNO Reserve<br>- 764             | • CNO Reserve<br>- 933             |
| • Claimant Reserve<br>- 289        | • Claimant Reserve<br>- 326        | • Claimant Reserve<br>- 676        |
| • Total<br>-3,042                  | • Congressional (Labs)<br>+2,000   | • Total<br>-2,296                  |
|                                    | • Total<br>-3,996                  |                                    |

**Figure 3. PDE and Reserves.**

## **2. Budget Categories**

Academic labor dollars have two main programmatic categories, direct and reimbursable. Direct funding supports the schoolhouse programs and includes the operating budget (O&M, N) for Navy and Marine students and tuition (reimbursable) dollars for non-Navy students attending NPS.

The main programs supported by other reimbursable funds include the reimbursable research programs, conferences/short courses, course/curriculum development, distance learning and tenant activities, for example the Navy Center for Acquisition and Training (NCAT), Defense Resources Management Institute (DRMI), and Center for Civil Military Relations (CCMR). Tenants are separate and

distinct from the schoolhouse labor issues discussed in this thesis. These tenants have distinct budgets and personnel staffing that are not addressed by Academic Planning. For the purposes of this thesis, these funds will not be addressed.

Reimbursable research (RR) funding is the largest reimbursable component of academic labor planning as seen in Figure 4. Various faculty members negotiate funded work with research sponsors. A faculty member develops a research proposal for which a sponsor provides funds. Each proposal is treated as a separate program and funding source according to DOD Financial Management Regulations.

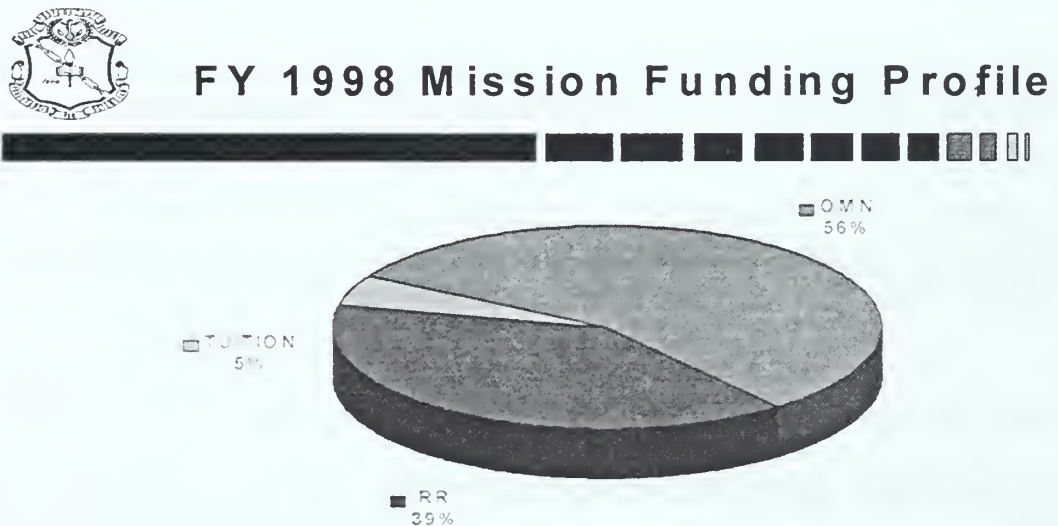


**Figure 4. 1998 Mission Funding Profile.**

Indirect support costs for General and Administrative (G&A) overhead are assessed at 23% of RR direct labor as it is executed throughout the year. G & A assessments provide indirect funds to the academic and support departments. A final component of the plan is the other reimbursables category (RM). This category

can include conference fees, short courses, student thesis support, and interservice support agreements (ISSAs).

### III. THE LABOR ALLOCATION MODEL

#### A. THE LABOR PLAN

Academic Planning (AP) develops a labor plan to provide internal control and tracking for academic labor. Some of the benefits added by having AP centrally oversee academic labor budgets, include:

- Understanding Navy budgeting (i.e., under executing budgeted workyears and/or dollars can result in cuts to the budget)

- Macro-planning (i.e., long range strategic planning with a schoolwide versus departmental focus)

- Flexibility for making mid-year corrections (i.e., Academic Planning can adjust labor plans to accommodate in-year shortfalls and execution cuts)

- Minimizing detrimental impacts of fluctuations in an individual department's reimbursable income (i.e., Academic Planning can cover temporary shortfalls in reimbursable income, avoiding unnecessary furloughs or reductions in force)

The AP uses a labor plan to initially allocate and then track execution throughout the year. The labor plan is organized by department and separates faculty and staff. Faculty and staff labor controls (workyears and dollars) are allocated by using different formulas. The faculty model uses an empirical performance-based allocation method based on class sections taught in prior years. The staff model uses an incremental model based on historical staffing levels and faculty-to-staff ratio standards. The change from workyears to dollar controls was

not a change in the allocation method. It changed only the unit being allocated.

## **B. WORKYEAR BASED LABOR PLANS**

A workyear equates to the number of working hours in a given year (i.e., FY 1998 had 261 working days x 8 hours per day = 2,088 hours = 1 workyear). The workyear is distinguished from end strength, which measures only the number of personnel working at a particular time (i.e., a snapshot). Prior to FY 97, all academic departments at NPS were issued workyear controls for their respective budgets, and the labor dollars were tracked centrally by AP.

### **1. The Faculty Workyear Allocation Model – Direct**

The faculty workyear allocation model analyzes the number of qualifying course sections taught within a department over the last four quarters. AP's criteria for qualifying course sections at the time were:

A minimum number of students – at least 5 students enrolled per section.

A minimum number of credit hours for a given course- lecture and lab  $\geq$  two hours.

Taught by civilian faculty (military faculty are funded separately).

Qualifying course sections are then equalized to units of "equivalent hours of instruction." The total hours of instruction delivered, plus a correction for oversized classes (i.e., classes with more than twenty students), determines the equivalent hours of instruction (EH). The correction equation shown in Equation 1 for classes with over 20 students is:

$$EH = H * \left(1 + \frac{N - 20}{20}\right), N > 20 \quad (1)$$

where N equals the number of students and H equals the number of credit hours. As an example, the equivalent hours of instruction for a four-hour class of 30 students, is computed as follows in Equation 2:

$$EH = 4 * \left(1 + \frac{30 - 20}{20}\right), N > 20 \quad (2)$$

The equivalent hours of instruction would equal 6 credit hours. Completed theses are considered the academic equivalent of a two-hour course. The model uses this historical data to calculate a department's pro rata share of direct teach (DT) budget.

## **2. The Staff Labor Allocation Model - Direct**

Staff controls are allocated based primarily on historical staffing data. Academic departments, which have faculty and staff, e.g., the Physics department, will measure staff levels against the faculty-to-staff ratio. Other support departments, such as the Library and Computer Center, are fully manned with staff personnel plus one or two faculty members as Directors and Deans. According to AP, staff allocation for support departments is based on historical staffing levels, with very few variances from preceding years.

## **3. Faculty and Staff Labor Allocation – Reimbursable**

AP's estimate of reimbursable labor controls is based upon historical data from previous years' reimbursable income. These controls estimate expected

annual reimbursable labor income for the department. The academic departments must generate this income throughout the year by soliciting sponsorship for their specific research proposals, similar to a private business model.

### **C. WORKYEAR VERSUS DOLLAR BUDGET CONTROLS**

Changing the control from workyears to dollars gives program managers access to all the dollars associated with their program. This allows them the flexibility to determine labor versus non-labor tradeoffs. Program decisions can be made at the program manager level. The NPS Provost described his motivation for the policy change as follows:

I became a participant because of the frustrations with multiple controls and constraints put on Navy managers who are trying to deliver a program and live within a volatile budget. I expected managers to be able to better manage their programs, and managers to feel better about their jobs. And, I wanted to move dollars from labor to 'things'.

The Library shared this perception, as relayed by Layne Huseh, reader services librarian:

A further incentive was that dollars in the labor budget that were not spent on labor could be moved into OPTAR and spent on resources. In the Library, our OPTAR budget has declined at a time when the cost of resources (periodicals, serials, books and electronic tools like CD-ROM's and Internet access to databases) has increased at rates, which range from 11% to almost 20% per year. Because we obtained the authority to manage our labor budget in 1997, we were able to transfer \$100,000 of excess labor dollars from the labor budget to the OPTAR. Those funds made up for the shortage in the budget and we did not have to cut subscriptions or significantly reduce funds spent on books and electronic resources.

Management felt that this delegation of authority would make for better

decisions at the department level and ensure the preservation of the core mission.

Furthermore, long term planning in the departments should allow them to better position themselves for the future. The Library anticipates even greater success in the future. According to Layne Huseh:

I anticipate even more success in these processes in the future. The successes are tied to the library's process of strategically planning actions – including those that involve staffing. There must be a link between the planning process and management to budget, as well as a commitment and involvement of the library management staff to this process. We are developing strong links for all of these.

Changing the control unit from workyears to dollars did not change the allocation model; workyear controls were simply converted to dollar controls for the participating departments. However, the conversion to dollar controls did raise some points worth noting. In the faculty labor allocation, AP uses average salary to calculate the dollar allocation for a particular academic department. Once the previous year's workload for the department is analyzed (e.g. class sections taught), the AP determines the number of faculty necessary for the upcoming budget year and multiplies that by the department's average faculty salary. Under workyear controls, dollars are independent of the workyears. Now dollars and workyears are interdependent at the department level.

The use of historical average salary to determine faculty dollar allocation introduces an element of uncertainty. Historical data may not be the best standard to use if better information is available. Labor plans are established in the June/July timeframe of the prior year, but class scheduling and faculty planning also take

place well in advance. Deans and Department Chairs are already determining which classes are to be taught and by whom.

The fact that a lower paid Adjunct Professor was teaching a class in one year does not mean that the next year's class scheduling will follow suit. The average salary for faculty actually teaching classes may be different than the average AP uses in their control calculations. In part this reflects the variability of RR funding. Not only is the amount of the department's RR variable over time, there is also variability in the time of year that specific professors are covered by RR. This variability affects the average faculty salary for direct teaching (DT). Average staff salary levels are more predictable, which gives Code 05 and the Library an advantage over SM.

However, AP notes that some departments feel that this creates an incentive to manipulate teaching plans (i.e., proposing to use high cost faculty in the planning phase to receive higher dollar controls, then using lower cost faculty to teach and generate savings). See Appendix C. Under the workyear model, the departments were less aware of the cost of choosing one professor over another to teach a class. By changing to dollars, managers have to weigh the choice of putting higher paid faculty in the classrooms to meet the need of scheduled classes. Under dollar controls, some managers complain about the incentive to place lower priced faculty in classrooms. However, AP labor plans reflect that this has not occurred within SM over the past three years (FY96, prior to the change, FY 97 and FY 98). The direct teaching average faculty salary is consistently higher than the reimbursable average

faculty salary for all three years. Furthermore, there is no perceptible trend in the direct teaching average faculty salary as a percent of total average salary over this period as seen in Figure 5.

|      | <u>Direct Average</u> | <u>Reimbursable Average</u> | <u>Percentage of DT<br/>to RR Average Cost</u> |
|------|-----------------------|-----------------------------|------------------------------------------------|
| FY96 | \$101,767             | \$98,976                    | 1.028%                                         |
| FY97 | \$105,796             | \$104,325                   | 1.014%                                         |
| FY98 | \$110,959             | \$106,784                   | 1.039%                                         |

**Figure 5. SM Average Faculty Labor Cost Data.**

The use of historical data for either workyears or dollars has an impact on future years. If a department consolidates classes and executes under control one year for faculty, the next year it will receive a smaller allocation due to its labor savings in the previous year. The previous year's "reward" dollars become a trade off for reduced labor controls. Labor savings in previous years are translated into penalties in future years.

Another policy change was implemented in FY 1997 that ran concurrent to the "currency" policy change. This was the delegation of civilian personnel classification authority to Systems Management and the Library. This policy decentralized authority to determine the appropriate title, series, and/or grade pay level of a department's staff. Previously the Human Resources Office (HRO) made these determinations for the departments. According to Mary Aguilar, HRO Director:

Delegation of classification was implemented in FY97 with SM and the Library, which both had Manage To Payroll (MTP) budget authority....Both Maxine (Reneker, Library Director), and Reuben (Harris, SM Department Chair), were given authority up through GS-13 (civilian pay rate).

However, in both cases AP has final authority to approve or reject job classification changes. This had an impact on the departments' ability to utilize this policy change.

In effect, the currency policy change and the delegation of job classification authority were tied together. This became apparent as stakeholders expressed their opinions about perceived disincentives associated with the currency policy change.

#### **D. DIFFERENCES BETWEEN THE DEPARTMENTS**

There are inherent differences concerning the two allocation models for faculty and staff as they relate to support (Code 05 and Library) and academic (SM) departments. Indirect funding budget estimates are a fraction of the estimated reimbursable dollars, where estimates are provided by the Research Administration Department, based on historical data. Indirect support costs pay for General and Administrative (G&A) overhead. This is assessed at 23% of RR direct labor as it is executed throughout the year.

Similarly, the support functions' indirect control is based on historical data. However, the indirect received by staff support activities is a fraction of the schoolwide reimbursable income, vice reimbursable income for a single department. Other reimbursable funding in the support department labor plans commonly reflect

support provided reimbursably by other parties (e.g., an Inter-Service Support Agreement (ISSA) with a tenant for computer time on the NPS mainframe computer). ISSAs are contractual arrangements between two parties for services. These are established prior to the fiscal year and total payments or payment rates are explicitly contracted.

## **1. Indirect Funds**

As labor is executed biweekly, actual indirect cost recovery is based on Reimbursable Research (RR) labor execution. The Computer Center (Code 05) and Library receive 13% and 10%, respectively, of the School's total indirect (G & A) recovery. The indirect report of September 16, 1997 indicated \$238,823.55 in indirect funding for Code 05 and \$183,710.44 in indirect funding for the Library; the School's total indirect recovery was \$1,837,103.34. The academic departments (including SM) receive 26% of the total indirect costs recovered under their reimbursable research programs. For example, in SM, indirect costs distributed to the Department were \$85,298.80 in FY 97; however the reimbursable research program in the SM Department generated a total of \$328,072.22 in indirect cost recovery.

According to Danielle Kuska, Director of Research Administration [Ref. 1], the availability of indirect cost recovery returned to the academic departments is more variable than that returned to the support functions. The distribution to the academic departments is in direct proportion to the size of their reimbursable research programs; the support functions, however, receive a fixed percentage of

the School's entire indirect recovery. The overall RR labor executed over the years is fairly constant and has increased from year to year. This makes the indirect cost "income" relatively stable for support departments, such as the Library and Computer Center. The instability of indirect recovery in the Academic departments is indicated by the sponsored funding profile of the Physics Department. The Physics Department's research labor is one example as seen in Figure 6.

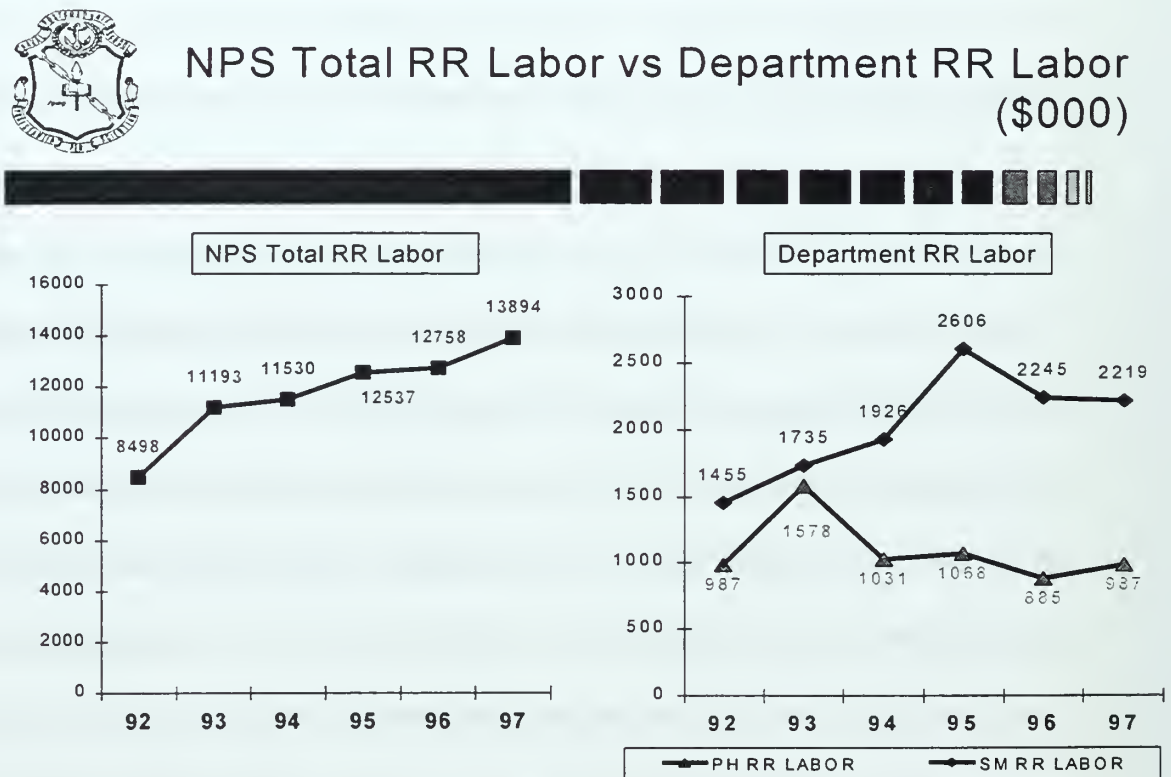


**Figure 6. NPS Total RR Labor vs. Department RR Labor.**

The amount of sponsored reimbursable research labor has been decreasing since FY 1993. In FY 98 several Physics Department faculty members who were heavily involved in reimbursable research left NPS, thus reducing the department's reimbursable research by more than half (FY 97 research was \$987K whereas FY

98 was \$456K), and its indirect funding as a consequence. In this case, Physics Department labor planning was detrimentally affected. Another example is found in the Department of Systems Management. In FY 1996, SM's executed RR labor was lower than the previous year's; therefore, its indirect staff support income was also lower than expected.

## **2. Reimbursable – ISSA versus Research**

Other reimbursable funds used for the Library and Computer Center labor are generated mainly by ISSAs with other agencies that utilize their facilities. These reimbursables are contractual agreements with established rates agreed by both the provider and consumers of the service; they are renewed year to year. For example, the Computer Center has maintained an ISSA with Defense Manpower Data Center (DMDC) since 1994 for using the Center's mainframe computer.

To summarize, the academic departments' RR income is generated by numerous faculty research projects. There are over 350 individual research accounts listed in the Research Administration report for FY 1997. The number of RR accounts per academic department ranged from four to forty-six. SM had thirty-nine different research accounts. In contrast, the Computer Center has two main accounts, indirect funding from school wide RR projects and the continuing DMDC ISSA. Thus, support departments have more stable reimbursable funding sources than the academic departments.

## **3. Year-to-Year Adjustments in the Labor Allocation Model**

The different methodologies used to adjust labor allocations between the

academic and support departments highlight another significant difference. If the academic departments execute under the labor control one year, by consolidating classes or from lower student enrollment, they will receive a smaller labor allocation the next year using AP's labor allocation methodology. One year's savings become a short-term trade-off with reduced future labor controls. Labor savings in previous years are translated into labor budget cuts, and, potentially, penalties in future years.

The support departments' staff allocation is not adjusted year to year on the basis of a formalized prior year workload measure or under execution. The historical data utilized for prorating support department staff dollars is adjusted over several years after a trend has been established. This shows a disparity between the two models for Academic and support departments. The combination of these issues highlights the differences between the two types of departments in the FY 1997 conversion of the workyears to dollar budget controls.

## IV. THE POLICY CHANGE

### A. INTRODUCTION

The labor allocation model provides the framework by which the departments may be analyzed. One year's labor data under the new allocation process limits the ability to provide any detailed analysis of the effects of the change. Figure 7 shows actual performance in the participating departments relative to their budgets in FY97. Quantitatively, Code 05 and the Library generated over \$100,000 in labor savings each. SM faculty and staff overspent by \$50,892 and \$17,374, respectively.

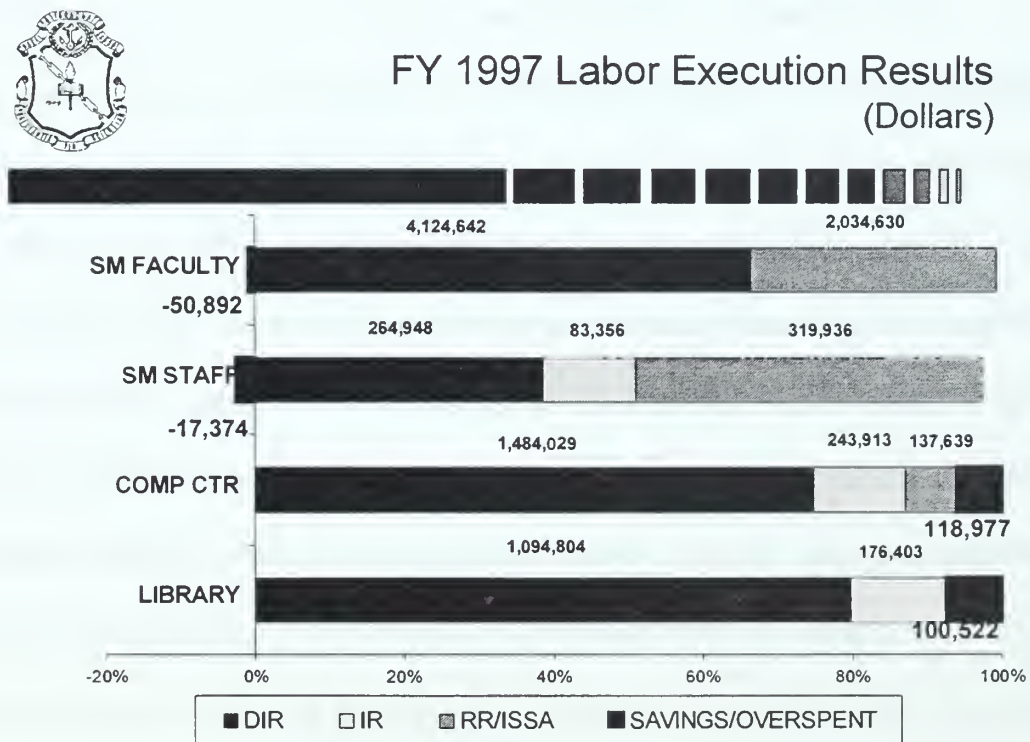


Figure 7. FY 1997 Labor Execution Results.

However, the numbers alone do not tell the whole story. Examining the departments as two basic categories, support and academic, allows us to analyze the apparent success of the support departments (Library and Computer Center), as well as understand the perceived failure of the academic department (SM). These departments are fundamentally different in nature, making real comparisons difficult. Only by comparing the labor allocation model for the support and academic departments can inferences be drawn concerning the currency policy change. This will be discussed in terms of budget, stakeholder, and incentive/disincentive analysis.

## **B. THE SUPPORT DEPARTMENTS – CODE 05 AND THE LIBRARY**

Code 05 and the Library are treated similarly in the labor allocation model. These support departments have little to no faculty (i.e., most of their employees are staff). Labor allocation for staff in support departments is relatively simple and very stable. These departments do not rely on internally generated reimbursable research, and annual adjustments in the labor allocation model reflect long term trends rather than the prior year's experience. The "luxury" of not having to deal with disruptive annual adjustments in the labor allocation model and fluctuating funding provided the support departments a more stable planning environment. The reimbursable funding resources that the support departments *do* receive are Indirect/ISSA (Inter service Support Agreement) funds, a far more stable funding profile than the academic departments.

### **C. THE ACADEMIC DEPARTMENT - SYSTEMS MANAGEMENT (SM)**

The SM department is a far more complicated entity in terms of labor allocation than Code 05 and the Library. The Systems Management department includes faculty and staff. Faculty funding represents the truly complicated and variable part of the labor allocation model and results from two factors: 1) the labor allocation for direct teaching reflects the prior year's experience rather than long term trends and 2) academic departments rely heavily on internally generated reimbursable research funding. 33% of SM faculty labor for FY 97 is reimbursable research. The reimbursable research funding profile is variable in nature and thus far more difficult to plan for and execute. Despite the fundamental differences in the departments, the "stakes" of the departments have many similarities. The "stakes" and the respective department "stakeholders" that participated in the currency policy change are described in the next section.

### **D. STAKEHOLDERS AND STAKES**

What and who are the stakeholders and what are the stakes in the currency policy change? Stakeholders are those groups, parties, and claimants in an organization that exert a force or hold on the organization [Ref. 2]. Using the formal NPS organizational chart, the stakeholders in the currency policy change are highlighted in Figure 8.



# NPS Organization Chart

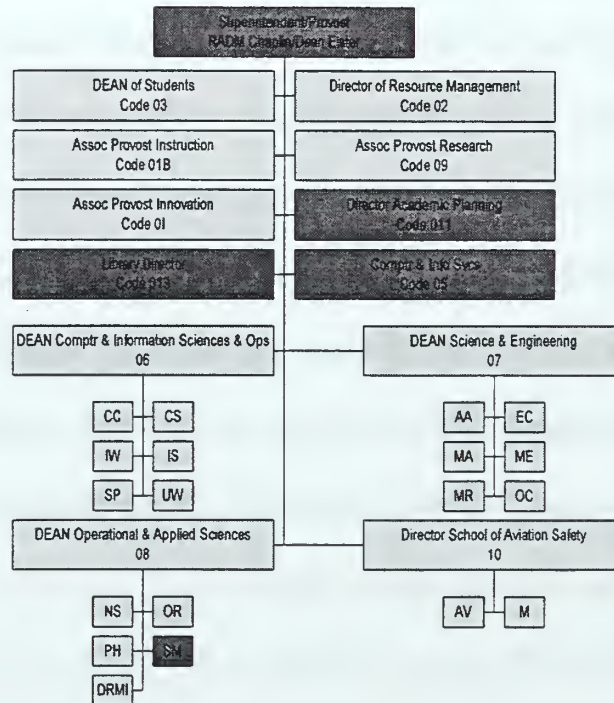


**Figure 8. NPS Organizational Chart.**

The stakeholders include the Superintendent, Provost, Academic Planning, Systems Management (SM), Code 05, and the Library. Observe the hierarchy of the stakeholders on this chart. Compare this chart with a chart showing the financial hierarchy of the stakeholders in the currency policy change in Figure 9. Note how the financial relationship amongst the stakeholders is different than in the formal NPS organizational chart.

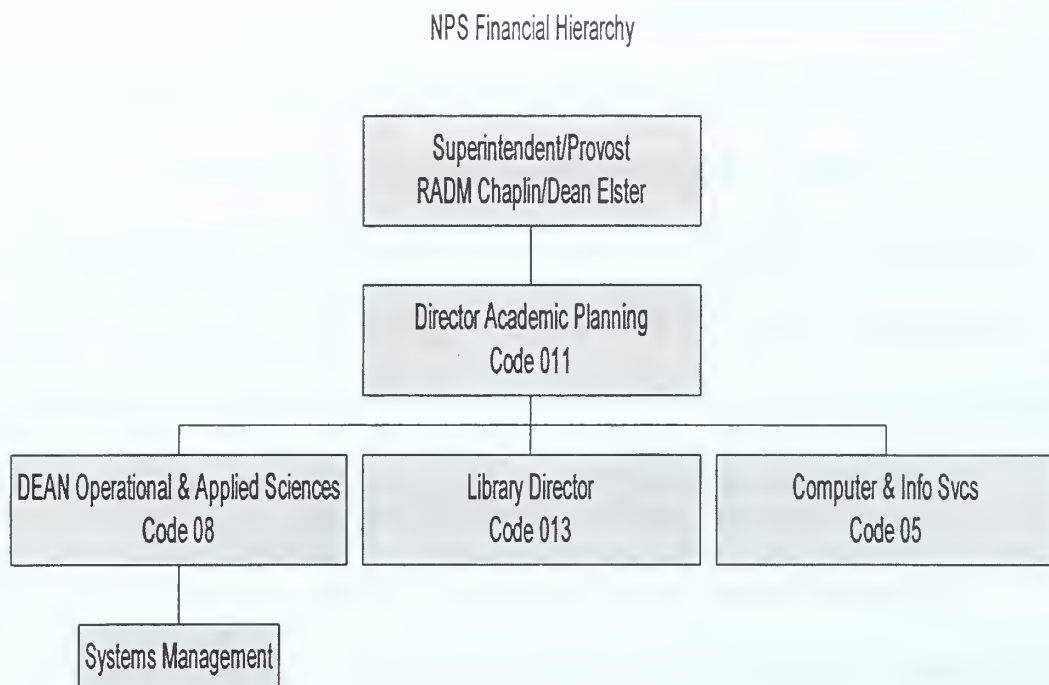


**Figure 9. NPS Financial Hierarchy**

In the organization chart in Figure 8, the support and academic departments are not directly subordinate to Academic Planning. SM *is* subordinate to its Dean, however, which has ramifications for delegation of job classification, as discussed later in this chapter. Figure 8 indicates that the support and academic departments are directly subordinate to AP for financial purposes. This power relationship became very important in executing the currency policy change.

The policy change involved different stakes for different stakeholders. The delegation of labor authority provided more flexibility and decision authority for the subordinate stakeholders; it offered the opportunity to improve the institution's cost effectiveness, an extremely important and ongoing concern for the "power" stakeholders; the Superintendent, Provost, and Academic Planning.

## E. GOALS OF THE CURRENCY POLICY CHANGE

Via a standardized written survey, the superior and subordinate stakeholders were able to voice their perceptions and opinions concerning the goals of the currency policy change. As the “power” stakeholders initiated the change in currency policy, we shall begin by discussing their perceptions. Professor Dick Elster, Provost of NPS, had this to say about the currency policy change goals:

Goals were to decentralize, and let managers manage. The goals were no more defined than that. [Appendix A]

With the Provost’s broad interpretation, the goals became more specific as the policy worked its way down through the chain of command toward implementation. Professor Dave Whipple, Associate Provost for Innovation, helped originate and promote the currency policy change. Professor Whipple was also the Systems Management department chairman prior to Professor Harris. He envisioned the change in this way:

The goal was to see if there could be *sufficient incentives* provided to *at least* slow the growth of DT (Direct Teach), if not to actually ‘save/reduce’ the department DT budget. One piece was to have been that if a department could *save* (i.e. not allocate) some percentage of its budget, savings could be shared 50-50, an even split over some period of time. That is to say Academic Planning would not take all of the savings achieved by the departments. Nor would the departments’ budgets be reduced the following year by the full saved amount. [Appendix B]

Professor Gil Howard, Director of Academic Planning (AP) defined it this way:

The goal was to provide incentives to departments to save labor funds. This was clearly understood by the Deans and was soon evident to the departments. [Appendix C]

When the subordinate stakeholders were asked about the goals of the policy change, their answers were somewhat different. We begin with the response of Professor Reuben Harris, Department Chair of Systems Management:

The goals were never clearly articulated to me. Maybe they were clearly stated within the NPS Planning Board or elsewhere, but they were not communicated to the other departments or me. [Appendix D]

Layne Huseh, Reader Services Librarian, had this to say about the goals of the policy change: "Goals of the experiment were not clearly defined." [Appendix E]

Finally, Professor Dave Norman, Code 05 Department Chair, had this brief response to whether the goals of the policy change were clearly defined: "Never to me." [Appendix F]

It is clear that the currency policy change suffered at the outset from a communication problem in making the strategic plan a tactical reality. For purposes of this discussion, strategy will be defined by *what* is to be done, whereas tactics are *how* to implement the strategy. The next section will discuss incentives and disincentives of the currency policy change, as perceived by the stakeholders, and how these perceptions helped to shape their thinking as to whether the policy change was an overall success or failure.

## **F. INCENTIVES AND DISINCENTIVES**

Academic Planning has always felt that every manager should take the "good citizen" approach to managing. However, even the "good citizen" requires a

certain amount of motivation. Incentives are one way of providing this motivation. At a minimum, incentives should not work against the “good citizen.”

A small “trial” group should be used to judge the relative merits of the incentive plan rather than testing a new incentive program on a whole organization. Gaining acceptance by the entire organization may be easier if it is perceived as successful within the trial group. A trial group also provides experience in applying the incentive program, making the transition to the final implementation easier if the plan is deemed successful.

Theoretically, management should predict how the incentive plan would affect the trial group. In this way, the plan may be monitored against predetermined performance standards. Deviations from these standards may then be analyzed to determine why they occurred and how they may affect the organization should the plan be fully implemented.

Clearly, the preliminary trial must be successful, or at least indicate the possibility for success, before the plan is implemented throughout the organization. If the results are ambiguous or unsuccessful, the chances for the incentive plan to work for the entire organization are marginal at best.

If it *is* considered successful, the plan should be briefed thoroughly to the remaining elements of the organization prior to its implementation. The trial group or groups should provide feedback as necessary until the new incentive plan is thoroughly entrenched in all aspects of operations.

If the above steps are taken, management should expect favorable results, assuming they have set proper or clear objectives. A 1% increase in efficiency may be a waste of time, whereas a ten percent gain may be worthwhile. The same may be true of dollar savings. Management needs to identify the overall *goal* of the incentive program and make this goal clear to the organization. [Ref. 3]

In this case incentives are implicit within the currency policy change; there was no deliberate incentive plan established by Academic Planning. Though AP downplayed the role of incentives, there *was* the *perception* of incentives within the policy change among the subordinate stakeholders. When asked about perceived incentives, Professor Harris of Systems Management stated:

To my knowledge there were no incentives offered other than the implied freedom and the expectation that I would get to keep my “savings” to be reinvested in SM. [Appendix D]

Layne Huseeth, Reader Services Librarian, stated:

Incentives were more latitude in determining our staffing needs – we theoretically were not constrained by the “Billet List”. A further incentive was that dollars in the labor budget that were not spent on labor could be moved into OPTAR (This term stands for “Operating Target” which is the department’s non-labor allocation to spend on purchases) and spent on resources. [Appendix E]

Professor Dave Norman, Code 05 Chair, stated:

The incentives were that we could recapture OPTAR by making better use of billets. [Appendix F]

Note the commonality of the responses concerning perceived incentive among the subordinate stakeholders. The answers were virtually identical. Among the subordinate stakeholders there was no confusion about incentives within the

currency policy change. The question must then be asked: Were their perceptions of the inherent incentives in line with those of the superior stakeholders?

Dick Elster, NPS Provost:

The incentives for managers stemmed from the desire to do a good job, and to have authority commensurate to their responsibility. Managers could, for instance, “convert” labor dollars to ‘things’. [Appendix A]

Professor Gil Howard, Academic Planning:

The incentive was that, unless the budget was cut, the departments would be able to keep any faculty labor savings for other uses. [Appendix C]

Unlike the perceived goals of the currency policy change, there was little difference of opinion between the superior and subordinate stakeholders concerning the perceived incentives. This clarity of perception highlights a key area where the change of currency from workyears to dollars had an impact. However, clear incentives combined with unclear goals can lead to conflict. In this case conflict arose through disincentives generated in attempting to execute the currency policy change.

When asked about the disincentives that arose in attempting to execute the policy change, Reuben Harris related this:

The disincentives turned out to be much more prevalent-frustration resulting from having no freedom to act and having *all* PD (Position Description) revisions denied by 01 (Provost) or 011 (AP). [Appendix D]

Layne Huseeth, on the other hand, said:

The only disadvantage I can think of is the difficulty in getting things

through the Academic Planning Office. [Appendix E]

Professor Norman, of Code 05, did not state that there were in fact *any* disincentives as a result of executing the currency policy change. [Appendix F]

Notice the variation of responses concerning disincentives. Systems Management felt the most strongly that there were serious disincentives; the Library and Code 05 felt they were minimal to nonexistent! The main disincentives perceived by the SM and the Library were in regard to implementing their new delegation of job classification authority. Since Code 05 was not a participant in the delegation of job classification authority experiment, it did not experience this frustration. The HRO Director stated:

Unfortunately, we did not change the personnel approval process to facilitate MTP (manage to payroll). When either SM or the Library made a (job) classification decision, it was still subject to approval by Academic Planning. Actions were put on hold in Academic Planning and I received numerous calls from both departments about their frustration in being able to carry out the authority that they had been delegated...The first year they classified very few positions. Reuben's (SM) authority was actually pulled after the first year because the decision was made to give class authority to the deans and not below that level. The Library has classified numerous positions in year two.

The superior stakeholders saw the disincentives differently. This is not surprising because they take a "macro" view of the institution as a whole.

From Professor Elster, Provost:

Disincentives (frustration and anger) developed as unfulfilled resource expectation at the School level forced me to cut the dollars I had promised managers they would have. [Appendix A]

Professor Howard, Academic Planning, stated:

...any shortfalls would have to be made up from other sources (staff labor or OPTAR). This change to dollars was also put in effect for staff labor. [Appendix C]

Finally, Professor Dave Whipple stated:

As I understand the way it was implemented, there was never a mutual agreement on “the baseline” or a *full resourcing* to provide the intended incentives [Appendix B]

The superior stakeholders indicated that they felt that a big disincentive to the subordinate stakeholders was budget cuts across the board. As mentioned in Chapter II, the school absorbed a \$3,042,000 budget cut in FY97. However, AP had anticipated the budget cut and set aside a reserve amount prior to the department labor allocations. The remainder was absorbed outside the school's labor budget. These adjustments precluded the need to cut the faculty and staff labor budgets. This may explain why the subordinate stakeholders did not mention across the board cuts as a disincentive.

Disincentives, specifically as they related to the academic department, arose more due to the policy change *process* itself, a process *within* the control of NPS. It is here that the major concern about perceived disincentives of the currency policy change lay.

## **G. THE LABOR PLAN FOR EXECUTION TRACKING**

Another important use of the Labor Plan is execution tracking. Decentralizing labor dollar controls heightens the importance of accuracy within the departments (e.g. a 1% variance in labor calculation for a \$59,579,000 labor budget is \$595,790 dollars). Workyears are budget controls/ targets that are not regulated

by law. Dollars are governed by appropriation law for use, purpose, and amount (e.g. 31 U.S. Code 1517, 1310, and 1512). Therefore, if the School over executes a workyear control, this is not good budgeting. However, if it over executes dollars, it has broken the law. Under the workyear model, labor dollars were centrally managed by AP in close coordination with the Comptroller's Office. Furthermore, AP calculates labor costs differently than the official accounting system. If budgetary oversight and control is decentralized to the division Deans or departments under the dollar control model, it becomes increasingly hard to resolve budgetary discrepancies between AP's labor plan and the official accounting system.

More specifically, workyear calculations are easier to monitor than dollar calculations due to the effect of leave and fringe benefits. The workyear calculation is:  $\frac{PH + LH}{D} \times 8$ . PH is the number of productive/working hours executed, LH is the number of paid leave hours taken, D represents the number of working days in that fiscal year and 8 is the number of hours in the normal workday.

The calculation for labor costs involves accrual accounting and statistical accounts for leave and fringe costs. This complicates the formula for calculating direct costs. AP's formula for calculating direct labor cost is different from the official accounting system. According to Anne Hankins, NPS Budget Analyst, statistical accounts for leave and fringe are established to recoup the reimbursable labor's share of these costs because leave and fringe costs always charge against

the direct operating budget [Ref. 4]. Whenever a reimbursable hour of work is charged, an additional charge is levied for the statistical accounts. This offsets the cost against the direct operating budget. The direct operating budget provides the buffer for the actual leave and fringe costs compared to the statistical rate. The AP's formula for calculating direct cost is different from the official accounting system.

One example of this issue surfaced in FY98. President Clinton officially declared an extra federal holiday the day after Christmas. The statistical leave account did not include this holiday in its rate calculation. Therefore, this was an unexpected cost against the direct labor account. AP's labor tracking would have understated the direct labor cost and thus giving the departments inaccurate information regarding labor costs. This issue causes problems when departments' expected labor cost savings fail to materialize due to variances in NPS's true labor cost. [Appendix G] This can be a critical component for the program's incentives structure, as discussed in Chapter IV.

#### **H. FY97/98 BUDGETARY DATA**

Budgetary results for the three test departments are shown in Appendix H. The chart shows control versus executed dollars. The Library had labor savings of \$100,522 in FY97 and \$239,381 in FY98. According to Layne Huseeth:

The library had excess labor dollars due to the difficulty we experienced in filling a number of unexpected vacancies. Several of these were advertised nationally (in American Libraries). It took a

long time to obtain a pool of qualified applicants, to schedule interviews and then select employees to fill those positions....We were able to create several new positions, classify them, and recruit applicants that met our changing work needs. In addition, we were able to salvage \$100,000 of our labor budget for resources purchases that would otherwise been lost.....We are now looking into hiring librarian interns; the creation of career ladder positions within the library in several different series; intermittent status; and several other options which would give us some flexibility in managing our payroll...We have realized efficiencies and savings through the continuous process of evaluating our needs with the occurrence of each vacancy. Every time there is a vacancy, library-wide needs are examined. Most of the time, new positions are created and then filled.

In examining the data in Appendix H, we can see the trend between FY97 and FY98 in the overall workyears for the library, reducing staff from 31.13 in FY97 to 28.59 in FY98.

The Computer Center data reflected in Appendix H shows labor savings of \$118,977 for FY97 and \$307,146 for FY98. Dave Norman explained the FY97 results as follows, "some savings were realized by downsizing, some by automation....I reduced my headcount by contracting out some services and by automating some functions with equipment I could not have paid for without the recaptured OPTAR."

When looking at the trend between the two years we can see that overall staffing for the Computer Center is not decreasing (FY97 35.4 workyears and FY98 35.69 workyears). However, the distribution between the direct and reimbursable has changed dramatically. In FY98, the Computer Center charged significantly more labor to its reimbursable accounts than in the previous year (FY98

reimbursable \$641,718 compared to \$137,639). Although the overall labor bill did not decrease, the analysis of the data seems to reflect maneuvering between the two pots of monies. Dave Norman claims to have been able to reduce staffing requirements in his interview. Looking back to the FY96 AP labor plan, we see that in fact in FY96 Computer Center staff was at 38.5 workyears vice 35.4 workyears executed in FY97.

In the case of the SM department, the data reflect that expenditures exceeded their control number for both staff and faculty in both FY 97 and FY 98. The discussion in this thesis would suppose that some of this was due to the limitation put on SM that did not hamper the two Support departments. Reuben Harris's comments were:

My expectations were that I would have the authority to establish revised position descriptions, eliminate existing positions/billets, create new billets, and change the nature of work responsibilities among our staff from very narrow, inflexible responsibility assignments, to very broad, increasingly challenging, and more flexible assignments. I expected the new billets to generally be at higher grades but that overall (over a period of time) I could significantly increase staff productivity, capability, and job satisfaction without increasing overall labor costs. I expected my role to be the decision-maker as to changes in staff billet structure, reassignments to new billets, which billets to revise or eliminate, and overall leadership of the change within SM. More precisely, I expected to eliminate some billets and people via attrition, eliminate the need for other billets via work process change and use of technology, and increase productivity via billet upgrades (skill and responsibility increases), and gain increased utilization of staff time by cross-training in multiple skills. I did not expect to reduce SM's total payroll costs because at the time we were increasing the size of the faculty and student body that was served by the staff. I did expect to reduce the cost of staff per faculty/student served, and/or increase the value-added service provided of staff per faculty/student served.

It is difficult to compare the FY97 and FY98 data due to a functional transfer of personnel and resources out of SM department in FY 98. However, the direct teaching faculty average salaries did not show a perceptible shift toward lower paid faculty in the classroom. This was one concern discussed in Chapter III. AP data on planned versus executed EH for FY98 show 1021.8 planned EH (based on the previous four quarters) and 1021.7 executed EH. The historical data used for the initial allocation proved very consistent with the final execution information. Workload discrepancies do not appear to have contributed to SM's over execution of faculty direct teaching dollars. This implies that the overrun must reflect higher than expected average salary and that SM did not substitute cheap labor for expensive labor in the classroom. Looking at the data provided in Chapter III, page 16, we can see this by comparing the FY97 average direct cost of \$105,796 to the FY98 of \$110,959. The increase is approximately 4.89%, when the pay raise adjustment for FY 98 was only 2.9%. The pay raise adjustment does not include pay step increases (also referred to as merit increases) for the faculty. This could account for the higher rate of increase over pay raise but AP budgets for historical average cost plus the pay raise factor only in the allocation process.

Given the comments by Reuben Harris, it is clear that he expected the ability to restructure staff to be the focal point of his response to the currency change. The restrictions of the delegation of classification authority prevented whatever plans he intended.

Any plans to create faculty savings by consolidating classes would probably

have been tempered by the disincentive of the faculty labor plan, discussed previously, which would provide a short term savings but long term reduction the following year when the model is recalculated.

## V. CONCLUSIONS

### A. INTRODUCTION

Was the change in currency policy a success or did it fail? This is the primary research question. Unfortunately, answering this question is not easy. Different participants have different perceptions. Furthermore, many factors, especially external factors like declining budgets, make the answer to this question more than a simple yes or no.

### B. WAS THE CURRENCY POLICY CHANGE SUCCESSFUL?

To address this question, consider the interview questions: Did you consider the policy to be a success or not? What would you have changed?

These questions were asked of all of the stakeholders. Professor Whipple, Associate Provost of Innovation contributed:

From what I *understand* transpired, there was *no* real *change*! And I don't know of anyone who was satisfied with the outcome. [Appendix B]

The superior stakeholders answered as follows:

Professor Dick Elster, Provost, Naval Postgraduate School:

Given the vicissitudes of budgetary life in DOD, I consider the experiment somewhat successful. How did I reach that judgement? I observed at least one manager acting to shave labor bills and move the savings to purchase items needed by our students. Additionally, at least one manager is very happy (she says) with the policy change. I value that feedback. [Appendix A]

Professor Gil Howard, Academic Planning:

Yes, a success. Dollars are the unit of budgeting. Some argue that

the incentive now is to put junior, or less qualified instructors in the classroom. That may be so, but it is all we can afford. [Appendix C]

The subordinate primary stakeholders answered as follows:

Professor Rueben Harris, Systems Management Department Chairman:

I consider the experience to be a failure...The simple fact was that the change was a failure because there was no change within SM. Thus there was no basis for learning. I would suggest a very long list of changes, too long to outline here. [Appendix D]

Layne Huseh, Reader Services Librarian:

I definitely consider the experiment a success. We were able to create several new positions, classify them, and recruit applicants that met our changing work needs. In addition, we were able to salvage \$100,000 of our labor budget for resource purchases that would have otherwise been lost. The only thing I would change is the approval process. If we have the authority to manage our payroll to budget, then let us do that – as long as we stay within the regulations. [Appendix E]

Finally, Professor Dave Norman, Director of Academic and Administrative

Computing Services (Code 05):

From my perspective, the experiment was a success. I wouldn't have changed anything. [Appendix F]

One can see that the opinions ranged from unqualified success, to qualified success, to failure. These differences of opinion can be better understood by considering the following issues.

**1. Who Were the Participants in the Initial Currency Policy Change?**

SM, Library and Computer Center departments were the test departments for the change in currency. AP, the Provost and key members of his staff were involved in implementing the currency change. These represent the superior

stakeholders involved in the experiment. The test departments are subordinate stakeholders. The test departments themselves fall into two types; Academic (SM) and support (Library and Computer Center) departments.

## **2. How Does the Labor Allocation Model Work and How Was It Affected by the Policy Change?**

There are two allocation models. The faculty labor allocation model is based on the previous year's number of class sections taught and faculty average salary. The staff model is a proration of remaining labor dollars based on longer-term trends. The allocation methodology did not change with the currency change. The change simply switched from workyears to dollar controls; the level of the controls were calculated the same as before.

## **3. How Are the Incentives/Disincentives for Effective Labor Management Affected by the Change in Budgetary Controls?**

Departments have an incentive to reduce labor costs so they can keep the savings. Academic departments have a disincentive to reduce faculty labor costs because it detrimentally affects the future labor allocation. If the AP relies on department labor savings to cover unanticipated mid-year shortfalls for other departments, this is a further disincentive to the participants. Thrifty departments are less motivated if the savings incentive is inconsistent. Departments that overspend do not have an incentive to stop if their budget shortfalls are covered for them, particularly if they potentially receive a higher budget the following year.

#### **4. What Goals Did Participants Expect from the Policy Change?**

The responses to this question were varied. The Provost felt that the goal was to decentralize and let managers manage. AP felt that the goal was to provide incentives to departments to save labor funds. Professor Harris understood that the goal was to eventually generate surpluses within departments. Layne Huseth stated that her goal was to manage her labor budget directly. Professor Norman stated that he did not know what the goals were. Finally, Professor Whipple stated that the goal was to provide incentives to at least slow DT (Direct Teach) growth, if not actually save or reduce the DT budget.

#### **5. Was There a Difference in the Perceptions of Success between Superior and Subordinate Participants and between Academic and Support Departments?**

The superior stakeholders felt that the policy change was a success, albeit a qualified one, based on the input from the subordinate stakeholders. The fact is that two out of three subordinate stakeholders supported the change. This is relevant when considering the strategic point of view held by the superior, or “power” stakeholders. It is interesting to note that Professor Dave Whipple felt that the policy change was a failure.

Perhaps the most telling point is that success, qualified success, and failure fell along the lines of support and academic departments. The support departments, Code 05 and the Library, felt the change was an overall success; the academic department did not. This goes back to an earlier argument in this thesis: the support and academic departments are fundamentally different entities in terms

of labor allocation, as described in the labor allocation model in Chapter III. Any comparisons across departments, or judgements about the overall success of the currency policy change, must consider this fact.

Clearly the policy change interviews showed that the goals, incentives, and disincentives were major issues in implementing the policy change. Clear goals among all of the primary stakeholders are key to beginning a project or process change. Without clear goals, the chance of overall success diminishes greatly. Likewise incentives/disincentives should be made clear. If, as in this case, incentives are inherent in a process but not explicitly stated, inconsistencies between goals and incentives/disincentives can cause failure. The fact that the currency policy change was never designed to be an “incentive plan” for managers does not mean it will not work as a process change, if it implicitly changes incentives. In any case, good two-way communication is vital to any project or process and it was lacking in this case. Lack of communication in *any* process inherently weakens that process. The currency policy change is no exception.

**6. What Other Changes Related to Labor Management Might Better Allow the Currency Policy Change to Increase Efficiency and Generate Savings within the Departments?**

Given the disparities between the accounting system and the labor plan costing methods, the AP and Comptroller should coordinate the formulas. The AP labor plan should adjust its leave distribution to mirror the accounting method. Fringe could be handled statistically, as it is today, with an added contingency pool for unexpected variances when the rate increases over time. Another option would

be to keep the fringe as a central account for the School, if the benefit of tracking through AP is not cost effective. The labor dollars for time worked and leave taken could be decentralized to departments and tracked accurately using the AP labor plan, with minor modifications to the current method.

Job classification authority is a potent tool to restructure the staff labor within a department, given they have manage to payroll (MTP) authority. SM's faculty labor allocation is driven by the requirement of classes that need to be taught. There are few options, such as consolidating classes or putting lower paid faculty in the classroom, that will meet this requirement *and* generate savings. This may be detrimental to the students, because those instructors who are better qualified to teach a particular class may cost more. The ability to restructure the staff personnel (i.e., fewer high graded positions) would give an academic department more flexibility.

Another issue to consider is the use of historical average salary to determine faculty dollar control allocations. This introduces an element of uncertainty. Historical data may not be the best standard to use if better information is available. Labor plans are established in the June/July timeframe of the prior year, but class scheduling and faculty planning also take place well in advance. Deans and Department Chairs are already determining which classes are to be taught and by whom. The fact that a lower paid lecturer was teaching a class in one year does not mean that the next year's class scheduling will follow suit. The average salary for faculty actually teaching classes may be different than the average AP uses in their

control calculations. In part this reflects the variability of RR funding. Not only is the amount of the department's RR variable over time, there is also variability in the time per year that specific professors are covered by RR. This variability affects the average faculty for DT. Average staff salary levels are more predictable, which gives Code 05 and the Library an additional advantage over SM.

Finally, the main qualitative "lesson learned" focuses on communication. Communication, or the lack thereof, has the capability to undo the best of plans, *or* to make spontaneous business decisions work. In this case, perceptions, in part due to poor communication, varied greatly about the goals and implementation of the policy change. In fact, lack of communication is a major cause of failure in incentive plans [Ref. 6]. However, it also clear that NPS relies on a labor allocation model that varies substantially among departments. This had a great, if not the most, impact on the outcome of the currency policy change.

### **C. OVERVIEW**

The currency policy change, from its infancy, was never designed to be an "experiment" with far reaching expectations. It was really a business decision, in the course of many business decisions, to improve the overall business process. It was implemented incrementally, beginning with SM, Code 05, and the Library. The following year it was extended to the rest of NPS. Because it was not an experiment, there was no feasibility study prior to its implementation, no analysis of the first year results, and no associated incentive plan. The participants were not selected randomly or strategically. Rather, the three participating departments were

volunteers who saw a chance to improve their individual business processes and benefit their respective departments.

Though the change in currency policy was never designed as an incentive plan, it was “tested” on a trial group (the departments) before Schoolwide implementation. This is commendable and in line with the way a new incentive plan or process should be introduced. However, conventional incentive management thought also indicates that the results of the plan, process, or policy change should be analyzed prior to expanding it to an entire company, entity, or institution [Ref. 5]. This did not occur before expanding the currency change to all departments in FY98.

This research also suggests several modifications that might help avoid some of the problems that surfaced during this analysis. One alternative is to stabilize the budget allocation and allow academic departments a longer period to generate and recoup savings. Management could institute a three-year objective-achievement system for the department chairs. Elements of this system would include the objective, or dollar amount issued to a given department, the department chair’s forecast, and actual results that the department achieves. Department labor allocations would be set for a three-year period, based on the current labor allocation model. Departments would forecast labor objectives for each year, with the objective focused on a department’s specified labor savings by the third year. Departments would keep any savings generated in the three years.

Rewards could also be based on how well a department performs according to its forecast year to year. Those departments that perform well, despite in-year budget cuts, should be rewarded as well. The three-year point would allow departments that performed well, relative to their forecasts, to keep some percentage of savings; management could reinvest the remaining savings in schoolwide issues.

A critical point in ensuring the success of this model is that management protects the labor allocation from in-year cuts and other fluctuations that would erode the trust between departments and management over the three years. This may be done at the price of impacting other programs, such as deferring real property maintenance program, academic infrastructure, cutting student textbook allowance or reducing staff in other departments. Fencing the objective achievement system may be unrealistic in totality. However a concerted effort by management to protect the labor allocation and allow program managers to generate labor savings would ensure “good citizen” behavior by all.



## APPENDIX A - INTERVIEW WITH DICK ELSTER, NPS PROVOST

Question (Q) 1: Explain the change in currency policy\* implemented in FY 97. What factors prompted the change?

Response (R): The change in currency policy was motivated by a desire to put financial decision-making into the hands of managers who had to execute programs and meet payrolls. I wanted, for instance, the Librarian to have a total O&M, N budget, and to be able to make tradeoffs between labor and book purchases, etc., without being constrained by ceiling points and labor dollar limits. So, in addition to wanting to decentralize decision-making, I wanted to reduce the numbers of constraints imposed on managers. Finally, I observed that the proportion of the mission budget going to labor was going up, and the proportion to recapitalization of labs and library was going down. I hoped that delegation would lead to some migration of dollars from labor to recapitalization.

Q2: What were the goals of the policy change? Were they clearly defined?

R: Goals were to decentralize, and let managers manage. The goals were no more defined than that.

Q3: How did you become a participant in the currency policy change? Explain your role and expectations.

R: I became a participant because of frustrations with the multiple controls and constraints put on Navy managers who are trying to deliver a program and live within a volatile budget. I expected managers to be able to better manage their programs, and feel better about their jobs. And I wanted to move dollars from labor to "things."

Q4: What were the incentives or disincentives during the implementation of the policy change?

R: The incentives for managers stemmed from the desire to do a good job, and to have authority commensurate to their responsibility. Managers could, for instance, "convert" labor dollars to "things." Disincentives (frustration and anger) developed as unfulfilled resource expectation at the School level forced me to cut the dollars I had promised managers they would have.

Q5: Did you consider the policy change to be a success or not? Please clarify. What would you have changed?

R: Given the vicissitudes of budgetary life in DOD, I consider the experiment somewhat successful. How did I reach that judgement? I observed at least one manager acting to shave labor bills and move the savings to purchase items needed by our students. Additionally, at least one manager is very happy (she says) with the policy change. I value that feedback.

Q6: If you realized savings, were these achieved through process efficiencies or downsizing? If you did not, why not?

R: I believe some labor savings were realized. If we all believed we were going to get the resources in the POM, I think we'd be more interested and better participants in the effort to delegate.

Q7: General comments about the currency policy change and its Schoolwide implementation in FY 98?

R: The effort to change currency policy is absolutely in the right direction. As mentioned above, the cynicism produced by budget drills makes most of us skeptical about resourcing ideas, no matter how good those resources are. But we should press on.

**\*Note:** The "change in currency policy" terminology has replaced the "delegation of authority experiment", as the nomenclature for the change from workyears to dollars in FY 97. The term "experiment" is considered by many stakeholders, and others, to be an inaccurate description of the event. No experiment, in the formal sense, was ever conducted.

## APPENDIX B - INTERVIEW WITH DAVID WHIPPLE, ASSOCIATE PROVOST FOR INNOVATION, NPS MONTEREY

Question (Q) 1: Explain the change in currency policy implemented in FY 97. What factors prompted the change?

Response (R): The currency policy change was generated (originally) as a part of NPS' "Reinvention" effort. The idea was that, when Chairs were given "work years", they had the incentive to (1) use it all, and (2) to "allocate/spend" it on the most expensive faculty. Thus I originally proposed that SM be given the "baseline *monetary* (\$ equivalent" of its FTE/work year labor budget, and be allowed to use it most expeditiously, including using it for *staff* labor if warranted.

Q2: What were the goals of the policy change? Were they clearly defined?

R: The goal was to see if there could be *sufficient incentives* provided to, *at least*, slow the growth of DT, if not to actually "save"/reduce the department DT budget. One piece was to have been that if a department could *save* (i.e., not allocate) some percentage of its budget, savings could be shared 50-50, an even split, and over some period of time. That is to say the Mezzanine would not take that all of the savings achieved by the departments. Nor would the departments' budget be reduced the *following year* by the full saved amount!

Q3: How did you become a participant in the currency policy change? Explain your role and expectations.

R: By the time the change was activated, I was no longer SM chair, but as OAPI (Office of the Associate Provost of Innovation) had volunteered to monitor and measure the process, if requested.

Q4: What were the incentives or disincentives during the implementation of the policy change?

R: Given the above, as I understand the way it was implemented, there was never a mutual agreement on "the baseline" or a *full resourcing* to provide the intended incentives.

Q5: Did you consider the policy change to be a success or not? Please clarify. What would you have changed?

R: From what I *understand* transpired, there was *no* real *change*! And I don't know of anyone who was satisfied with the outcome.

Q6: If you realized savings, were these achieved through process efficiencies or downsizing? If you did not, why not?

R: N/A

Q7: General comments about the currency policy change and its Schoolwide implementation in FY 98?

R: I don't know how/if it was implemented.

## **APPENDIX C - INTERVIEW WITH PROFESSOR GIL HOWARD, ACADEMIC PLANNING BOARD**

Question (Q) 1: Explain the change in currency policy implemented in FY 97. What factors prompted the change?

Response (R): At their weekly budget meeting the Division Deans discussed the idea of moving away from “workyears” as the unit of currency in mission budgeting. The idea was that Deans and Chairs needed to have an incentive to save money. Under the work-year system each department was given a certain number of faculty workyears for a fiscal year. If they spent it on (maybe hired) an expensive individual or a less expensive individual it was all the same to them. With a dollar budget they are given a fixed dollar amount and any savings they make are available to them. Not all Deans wanted to make this change so it was initially tried with only three departments (Library, code 05, SM).

Q2: What were the goals of the policy change? Were they clearly defined?

R: The goal was to provide incentive to departments to save labor funds. This was clearly understood by the Deans and was soon evident to the departments.

Q3: How did you become a participant in the currency policy change? Explain your role and expectations.

R: As Director of Academic Planning I oversee the mission budget including faculty and staff labor. I favored the change to dollars and still do. I expected that departments would pay more attention to the actual labor costs than before.

Q4: What were the incentives or disincentives during the implementation of the policy change?

R: The incentive was that, unless the budget was cut, the departments would be able to keep any faculty labor savings for other uses. Likewise any shortfalls would have to be made up from other sources (staff labor or OPTAR). This change to dollars was also put in effect for staff labor.

Q5: Did you consider the policy change to be a success or not? Please clarify. What would you have changed?

R: Yes, a success. Dollars are the unit of budgeting. Some argue that the incentive now is to put junior, or less qualified instructors in the classroom. That may be so, but it is all we can afford.

Q6: If you realized savings, were these achieved through process efficiencies or downsizing? If you did not, why not?

R: Certainly some savings were forced from downsizing, but probably some were realized through paying more attention to the actual labor costs involved. We need to be clear though that NPS does not have excess funds in the faculty (or staff) budgets. We have cost shifted toward reimbursable – maybe too much.

Q7: General comments about the currency policy change and its Schoolwide implementation in FY 98?

R: The entire issue is mixed up with the voluntary decrease in labor to try to free up funds for laboratories and the forced reduction imposed through the School's budget. NPS has made severe reductions in direct labor in the last few years.

## APPENDIX D - INTERVIEW WITH REUBEN HARRIS, SYSTEMS MANAGEMENT DEPARTMENT CHAIRMAN

Question (Q) 1: Explain the change in currency policy implemented in FY 97. What factors prompted the change?

Response (R): The currency policy change was never clearly defined nor widely announced. However it was “understood” that Systems Management, along with the Library and maybe a few other departments was to be given (delegated) authority to manage itself within dollar-only controls/constraints except where externally imposed regulation/law specified further constraints. The spirit of “Reinvention of Government” and the real need to increase efficiency and apply the most cost-effective procedures within NPS motivated the change. With Navy revenues to NPS decreasing, status quo operations would not be affordable in the future and new operating practices were needed. The change was seen as a relatively low-cost-low risk way to identify and test what such an alternative management approach could promise. Additionally, RADM Evans’ willingness to try new approaches, as well as Dave Whipple’s willingness to push NPS as a Navy Reinvention Lab, and a general *lack of resistance* to such an approach, contributed support to the idea of the change.

Q2: What were the goals of the policy change? Were they clearly defined?

R: The goals were never clearly articulated to me. Maybe they were clearly stated within the NPS Planning Board or elsewhere, but they were not communicated to the other departments or me. The Provost did say at least once that he viewed the “change” as a way to see whether surpluses could be generated within the departments, and if so how those surpluses would be reinvested by the department Chair. I told the Provost and Dean Blandin that I accepted that goal and looked forward to the challenge.

Q3: How did you become a participant in the currency policy change? Explain your role and expectations.

R: I was an aggressive volunteer for the program. My expectations were that I would have the authority to establish revised position descriptions, eliminate existing positions/billets, create new billets, and change the nature of work responsibilities among our staff from very narrow, inflexible responsibility assignments, to very broad, increasingly challenging, and more flexible assignments. I expected the new billets to generally be at higher grades but that overall (over a period of time) I could

significantly increase staff productivity, capability, and job satisfaction without increasing overall labor costs. I expected my role to be the decision-maker as to changes in staff billet structure, reassignments to new billets, which billets to revise or eliminate, and overall leadership of the change within SM. More precisely, I expected to eliminate some billets and people via attrition, eliminate the need for other billets via work process change and use of technology, and increase productivity via billet upgrades (skill and responsibility increases), and gain increased utilization of staff time by cross-training in multiple skills I did not expect to reduce SM's total payroll costs because at the time we were increasing the size of the faculty and student body that was served by the staff. I did expect to reduce the cost of staff per faculty/student served, and/or increase the value-added service provided of staff per faculty/student served.

Q4: What were the incentives or disincentives during the implementation of the policy change?

R: To my knowledge there were no incentives offered other than the implied freedom and the expectation that I would get to keep my "savings" to be reinvested in SM. The disincentives turned out to be much more prevalent-frustration resulting from having no freedom to act and having *all* PD (Position Description) revisions denied by 01 or 011.

Q5: Did you consider the policy change to be a success or not? Please clarify. What would you have changed?

R: I consider the experience to be a failure. There was no change! I did receive a letter from RADM Evans delegating labor delegation authority to me. Mary Aguilar, Jim Blandin, and Bob Jay, agreed that SM had "manage to payroll authority." As required, my key staff and I attended the required "Position Certification Course" offered by OPM. However, when we attempted to use our "delegation authority" we found that the old "chop chain" applying the same negative/cost controlling attitude. The result was that no requested changes were approved, and all anticipated changes were explicitly discouraged. I never received written notification or explanation for 02/011denials. The simple fact was that the change was a failure because there was no change within SM. Thus there was no basis for learning. I would suggest a very long list of changes, too long to outline here. The most important change required was widespread and public top-down leadership from start to finish. That did not seem to be present at any point!

Q6: If you realized savings, were these achieved through process efficiencies or downsizing? If you did not, why not?

R: There were savings achieved during the year resulting from both process

efficiencies and downsizing (e.g., the supply team innovation which reduced SM's purchasing personnel hours and labor costs significantly). Similarly, we increased cross training among our office-automation staff resulting in process efficiencies. Finally, we increased our use of student staff to carry out basic clerical tasks resulting in cost avoidance of hiring higher-grade full-time administrative staff (e.g., using GS-3 students instead of GS-5 full time staff). However, these changes/innovations were accomplished outside of the failed policy change.

Q7: General comments about the currency policy change and its Schoolwide implementation in FY 98?

R: There are still potential "savings" available if we had the authority to act in ways that could result in increased productivity, efficiency, and can-do spirit. I am convinced that many of my staff is willing to give more if the "output and reward transaction" is deemed fair. I deeply believe that management gets the work force and the output that it deserves! We deserve less than we are getting in terms of productivity, quality, efficiency, and motivation because we are not willing to change the pay for those desired qualities. Significant improvement does not come free, but it doesn't need to be expensive. We have to be willing to try new and different ways of operating to get new and improved outcomes. So far we haven't been willing or able to give such new ways a chance to prove they can pay off.



## APPENDIX E - INTERVIEW WITH LAYNE HUSETH, READER SERVICES LIBRARIAN

Question (Q) 1: Explain the change in currency policy implemented in FY 97. What factors prompted the change?

Response (R): The library director lobbied to obtain the authority, to manage payroll to budget directly with the Provost. Approval was granted and both the Administrative Librarian and the Library Director attended an OPM Classification training course sponsored by HRO. Upon completion of this course, the Library Director was authorized to approve the classification of new position descriptions (subject of course to review and acceptance by HRO staff). In conjunction with this authority, the library received labor budget figures from the Academic Planning office for the first time (prior to this, we had access only to the number of billets that were authorized with no actual \$ data). The library examines each vacancy very critically to determine if the position should be filled as it was originally described. If changes are required or if new skills are needed, a new PD is written and classified. The Director or Administrative Librarian discusses each action with academic planning prior to processing the paperwork through the Personnel system. Conscientious effort is made to balance the number of permanent FTE (full time equivalents) with the number that is planned by Academic Planning to insure maintenance of the overall NPS long term balance.

Q2: What were the goals of the policy change? Were they clearly defined?

R: Goals of the experiment were not clearly defined. I think the Library had in mind what and how to proceed. Our goals were to manage our labor budget directly. To manage to the dollars provided, not to an artificial list of billets allowed on a piece of paper maintained by Academic Planning. This goal was not completely realized in that there was not a clear agreement between academic planning and the Library as to what "Manage to Budget" entailed. By this, I mean that every time we wanted to fill a position, we still had to go through Academic Planning and the tool/guideline they used to approve or disapprove our action was the billet list that they maintained. To obtain approval to exceed the number of staff authorized on the Academic Planning Billet List was not simple. Frankly, I could never understand why Academic Planning was in the approval if we had the authority to manage payroll to budget.

Q3: How did you become a participant in the currency policy change? Explain your role and expectations.

R: The Library Director requested authority from the Provost. My part in this involved asking questions initially of the library director to identify what the guidelines for filling vacancies was. As a supervisor, I wanted to know how much latitude was possible in filling positions; and to do that I wanted to know how much the budget was. For example, if I wanted to hire 2 technicians instead of a GS-11 – could I do that? I thought that if I could show that the labor budget was not negatively affected by this change, I should be allowed to do it. When I found out that we didn't even know what our labor budget was – and also that this had concerned the Director from the time that she had started working here (6 months before) – the situation went on from there.

Q4: What were the incentives or disincentives during the implementation of the policy change?

R: Incentives were more latitude in determining our determining our staffing needs – we theoretically were not constrained by the “Billet List”. A further incentive was that dollars in the labor budget that were not spent on labor could be moved into OPTAR and spent on resources. In the Library, our OPTAR budget has declined at a time when the cost of resources (periodicals, serials, books, and electronic tools like CD-ROM's and Internet access to databases) has increased at rates, which range from 11% to almost 20% per year. Because we obtained the authority to manage our labor budget in 1997, we were able to transfer \$100,000 of excess labor dollars from the labor budget to the OPTAR. Those funds made up for the shortage in the budget and we did not have to cut subscriptions or significantly reduce funds spent on books and electronic resources. The library had excess labor dollars due to the difficulty we experienced in filling a number of unexpected professional vacancies. Several of these were advertised nationally (in American Libraries). It took a long time to obtain a pool of qualified applicants, to schedule interviews and then select employees to fill those positions. The only disadvantage I can think of is the difficulty in getting things through the Academic Planning Office...this did get better.

Q5: Did you consider the policy change to be a success or not? Please clarify. What would you have changed?

R: I definitely consider the experiment a success. We were able to create several new positions, classify them, and recruit applicants that met our changing work needs. In addition, we were able to salvage \$100,000 of our labor budget for resource purchases that would have otherwise been lost. The only thing I would change is the approval process. If we have the authority to manage our payroll to budget, then let us do that – as long as we stay within the regulations. It is important to understand the personnel regulations very thoroughly and to follow

them very carefully. Activities that are responsible for managing payroll to budget must take this part of the job very seriously. They do not have latitude to do “anything” they want with labor dollars or with the creation of positions...they do need to understand and follow all of the regulations. I rather liked the challenge that this represents. It is an interesting and creative process to achieve what is needed within the organization (in our case, the library) and at the same time figure out how to that within the restrictive rules and regulations we have to follow. You need to understand the different options for filling positions – how delegated examining authority works, how PPP (Priority Placement Program) affects hiring, how to advantageously use term and temporary positions, and what the differences are for excepted positions (VRA, handicapped, and SCEP – Student Career Employment Program, and STEP – Student Temporary Employment Program). We are now looking into hiring librarian interns; the creation of career ladder positions within the library in several different series; intermittent status; and several other options which give us some flexibility in managing our payroll.

Q6: If you realized savings, were these achieved through process efficiencies or downsizing? If you did not, why not?

R: We have realized efficiencies and savings through the continuous process of evaluating our needs with the occurrence of each vacancy. Every time there is a vacancy, library-wide needs are examined. Most of the time, new positions are created and then filled. The downside to this is that it takes time to complete the process analysis each time a vacancy occurs, time to identify the best way to proceed to fill the vacancy (in compliance with the regulations) and time to actually recruit the person that we need. I anticipate even more success in these processes in the future. The successes are tied to the library’s process of strategically planning actions – including those involving staffing. There must be a link between the planning process and management to budget as well as a commitment and involvement of the library management staff to this process. We are developing strong links for all of these.

Q7: General comments about the currency policy change and its Schoolwide implementation in FY 98?

R: I think you already have the gist of what I would offer here. However, I will try to sum it up in a “few” sentences.

1. If departments are going to manage payroll to budget, several things need to change:

- a. Departments need to be trained and held responsible for

following personnel regulations. This will prevent frustration. I think the library effort was successful because of this. We didn't try to make the system do what we wanted it to without regard to the rules that must be followed. This is not easy process, but it is possible.

b. We need to identify a different way to balance what Academic Planning is responsible for (in terms of long range impact of additional permanent positions) than the Billet System. It will continue to frustrate departments if every time they go to Academic Planning with a proposal to change their staffing, they continue to be told "you only have so many billets, you can't do that". We need to change our language here to one of billets to one of dollars. If the department can justify positions based upon budget and demonstrate to Academic Planning's satisfaction that there will not be a negative impact long term on NPS as a whole, then the department should be allowed to proceed.

## **APPENDIX F - INTERVIEW WITH PROF. DAVID NORMAN, DIRECTOR OF ACADEMIC AND ADMINISTRATIVE COMPUTING SERVICES**

Question (Q) 1: Explain the change in currency policy implemented in FY 97.  
What factors prompted the change?

Response (R): Not Applicable

Q2: What were the goals of the policy change? Were they clearly defined?

R: Never to me

Q3: How did you become a participant in the currency policy change? Explain your role and expectations.

R: Harrison Shull (former NPS Provost) told me one day that we were now manage-to-payroll. End of story.

Q4: What were the incentives or disincentives during the implementation of the policy change?

R: The incentives were that we could recapture OPTAR by making better use of billets. This worked! I reduced my headcount by contracting out some services and by automating some functions with equipment I could not have paid for without the recaptured OPTAR.

Q5: Did you consider the policy change to be a success or not? Please clarify.  
What would you have changed?

R: From my perspective, the experiment was a success. I wouldn't have changed anything.

Q6: If you realized savings, were these achieved through process efficiencies or downsizing? If you did not, why not?

R: Both. Some savings were realized by downsizing, some by automation.

Q7: General comments about the currency policy change and its Schoolwide implementation in FY98?

R: There is no hope until managers and Dept. Chairs are held accountable for busting their labor controls. The annual trial of taxing those who manage their payroll in a professional fashion to cover the budget busters paints a very sad picture.

## APPENDIX G – BUDGETARY CONTROLS

Switching from workyear to dollar controls allows departments to reprogram labor savings for other purposes. However, as budgetary responsibility is decentralized to the departments, it increases the importance of accurate budgetary controls and tracking tools. If AP retains oversight and control over the departments' budget performance, AP and the comptroller can resolve discrepancies between AP's budgetary calculations and the official accounting system. This was the procedure when AP used workyear budget controls. If budgetary oversight and control is decentralized to the division Deans or departments, it becomes increasingly hard to resolve budgetary discrepancies between AP's labor plan and the official accounting system. If divisions or departments exceed their actual budget limits due to accounting discrepancies, there can be legal implications for the school as a whole.

The calculation for labor costs involves accrual accounting and utilizing statistical accounts for leave and fringe costs. Statistical accounts for leave and fringe benefits are established to recoup the reimbursable labor portion of these costs. Leave and fringe costs always charge against the direct operating budget. For every reimbursable hour worked, there is an additional charge levied for the percentage of leave and fringe cost estimated to be charged against the direct at some point during the year. [Ref. 4]. Therefore, if an employee is hired solely to work on reimbursable projects, every hour worked would have the added cost of

both the acceleration to offset any paid leave taken during the year and the expected cost of benefits (e.g. retirement, health, etc.).

The acceleration rate is set at 17.2% for leave and 25.8% for fringe benefits, for a total statistical acceleration rate of 43% in the official accounting system. All productive time (direct and reimbursable labor) is accelerated with the preset rates for both leave and fringe. Reimbursable costs are always charged at this statistical rate, regardless of the actual leave and fringe costs. Therefore, reimbursable costs =  $H \times R \times 1.43$ , where H is the reimbursable hours worked and R is the hourly rate.

The direct operating budget (i.e., direct labor) provides the buffer for the actual leave and fringe costs compared to the statistical rate. Discrepancies between statistical and actual leave and fringe benefits are charged to direct labor. For example, if the actual leave is higher than 17.2%, then the direct budget will be charged the additional cost; if lower, the direct budget earns the credit. After this adjustment, direct labor may be effectively accelerated above or below 43%.

The AP labor plan accounts for fringe benefits and leave costs differently (see Labor Cost Calculation chart below). Fringe benefits costs are estimated using historical statistical rates, but these rates are based on productive time and leave, as opposed to simply productive time as in the accounting system, and there is no adjustment for actual leave taken. Specifically, AP's fringe acceleration rates are 21% for faculty and 23% for staff (vice 25.8% for both faculty and staff in the accounting system). Regarding leave, AP calculates total leave costs as actual leave costs plus the fringe acceleration for leave. This total leave is prorated to both

direct and reimbursable labor according to their respective weights in total unaccelerated labor costs. These accounting differences can cause discrepancies between AP and the official accounting system.

The difference in the two calculations for fringe can cause discrepancies because AP includes an added variable in the calculations, leave, which can fluctuate and distort the equation's outcome. To illustrate these discrepancies, consider the SM Staff labor delta for FY 97. See Labor Cost Calculation chart, page 78. AP includes a fringe acceleration for SM staff's leave cost. This creates a \$19,777.72 leave charge; the accounting system does *not* accelerate leave. Furthermore, the two leave calculations use different accelerators: 23% of direct and reimbursable labor for AP, 25.8% of direct and reimbursable labor for the accounting method. Thus, the total leave acceleration is \$105,767.80 for AP and \$81,330.75 for the official accounting system. AP prorates the total leave acceleration to direct and reimbursable labor based on their respective percentages of total productive labor (direct plus reimbursable labor), but does not adjust these totals for actual experience. The accounting method accelerates both direct and reimbursable labor for leave (17.2%) and adjusts the initial accelerated amount for actual experience, creating a \$4,659.34 leave adjustment against direct labor in FY97. As a result, AP's total leave allowance is \$105,767.80; the official accounting system includes a net \$85,990.08 leave allowance, an amount equal to actual experience.

To illustrate the possible effects of this difference, consider a case where a

SM Staff employee takes paid leave (e.g. sick, annual, holiday, etc.) for a week. AP's labor plan leave acceleration allowance would be unaffected; it would remain 1.23 time the total payment for direct, reimbursable and leave hours in all cases. The cost in the accounting system would be adjusted for actual experience, with the discrepancy between the initial allowance and actual experience charged against direct labor.

Fringe adjustments can also cause discrepancies between AP's labor plan and the accounting system. AP accelerates direct and reimbursable labor costs by 23% for staff and 21% for faculty. AP also accelerates leave as described above. The accounting system includes a 25.8% leave accelerator for direct and reimbursable labor costs for both faculty and staff. Again, the fringe acceleration is adjusted for actual fringe costs in the accounting system, creating a \$12,073.88 charge against direct labor in FY97. The fringe accelerator is not adjusted for actual experience in AP's labor plan.

As a result of the differences in leave and fringe acceleration calculations for SM staff labor in FY97, AP understates direct SM staff costs by \$13,158.12 and overstates reimbursable staff labor costs by \$7,622.06. Using the actual FY97 time and labor data from the NPS Electronic Time and Attendance Certification System (ETAC) for the three departments, the two methodologies have an outcome variance between 0.1% to as much as 5.9% for calculating direct costs. In the macro sum of mission labor the AP coordinates the overall labor, fringe and leave calculations with the Comptroller's Office. These discrepancies can be significant

if budgetary control is decentralized to the divisions or departments.

|                    | AP LABOR PLAN                                                                                                                              | ACCOUNTING SYSTEM<br><u>All leave &amp; fringe costs charge direct.</u>                                                                                                                         | IMPACT                                                                                                                                                                                                                                                                                   |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LEAVE CALCULATION  | AP prorates actual leave cost between direct & reimbursable labor                                                                          | Actual leave is offset by 17.2% of direct & reimbursable productive labor cost; direct labor (operating budget) is adjusted for discrepancies between actual and accelerated leave costs.       | Unless actual leave taken exactly equals 17.2%, AP's prorated leave adjustment will distort AP's adjusted total cost from the accounting system.                                                                                                                                         |
| FRINGE CALCULATION | Uses historical percentage fringe costs for both productive labor hours (direct and reimbursable) and leave costs (Staff 23%; Faculty 21%) | Actual fringe cost is offset by 25.8% of direct & reimbursable productive labor cost; direct labor (operating budget) is adjusted for discrepancies between actual and accelerated leave costs. | AP includes added variable (leave) which can distort the fringe calculation because leave does not earn fringe credits.<br><br>Unless actual fringe costs equal AP's historical percentages, there will be discrepancies between AP's and the accounting system's fringe cost allowance. |

**Table 1. Labor Cost Calculation.**

| FY 1997 COMPUTER CENTER STAFF cost (\$)                                     |                                         |                                        |                                          |                                           |                |
|-----------------------------------------------------------------------------|-----------------------------------------|----------------------------------------|------------------------------------------|-------------------------------------------|----------------|
| Labor plan method                                                           |                                         |                                        |                                          |                                           |                |
|                                                                             | direct                                  | reimb                                  | leave                                    | fringe                                    | total          |
| Basic cost(actual)                                                          | 988,074.01                              | 259,431.34                             | 262,897.64                               | 330,015.00                                | 1,840,417.99   |
| Fringe acceleration(23%)                                                    | 227,257.02                              | 59,669.21                              | 60,466.46                                |                                           |                |
| Prorated leave cost                                                         | 256,117.30<br>(79.204%)x<br>Total Leave | 67,246.80<br>(20.796%)x<br>Total Leave | (Total Leave-<br>323,364.10)             |                                           |                |
| Adjusted total costs                                                        | 1,471,448.33                            | 386,347.35                             | N/A                                      | N/A                                       | 1,857,795.68   |
| Accounting method                                                           |                                         |                                        |                                          |                                           |                |
| Basic cost(actual)                                                          | 988,074.01                              | 259,431.34                             | 262,897.64                               | 330,015.00                                | 1,840,417.99   |
| Fringe acceleration (25.8%)                                                 | 254,923.09                              | 66,933.29                              |                                          | (Total fringe acceleration-<br>321856.38) |                |
| Fringe Adjustment<br>(Basic cost(fringe)minus<br>Total Fringe Acceleration) | 8158.62                                 |                                        |                                          |                                           |                |
| Leave acceleration (17.2%)                                                  | 169,948.73                              | 44,622.19                              | (Total leave acceleration-<br>214570.92) |                                           |                |
| Leave Adjustment<br>(Basic cost(leave)minus<br>Total Leave Acceleration)    | 48326.72                                |                                        |                                          |                                           |                |
| Adjusted Total Costs                                                        | \$1,469,431.17                          | \$370,986.82                           | N/A                                      | N/A                                       | \$1,840,417.99 |
| Delta from Labor Plan                                                       | \$2,017.16                              | \$15,360.53                            |                                          |                                           | \$17,377.69    |

Table 2. FY 1997 Computer Center Staff Cost.

| FY 1997 LIBRARY STAFF cost (\$)                                             |                                        |                                       |                                           |                                            |              |
|-----------------------------------------------------------------------------|----------------------------------------|---------------------------------------|-------------------------------------------|--------------------------------------------|--------------|
| Labor plan method                                                           |                                        |                                       |                                           |                                            |              |
|                                                                             | <u>direct</u>                          | <u>reimb</u>                          | <u>leave</u>                              | <u>fringe</u>                              | <u>total</u> |
| Basic cost(actual)                                                          | 735,524.04                             | 124,804.85                            | 172,747.21                                | 243,280.00                                 | 1,276,356.10 |
| Fringe Acceleration(23%)                                                    | 169,170.53                             | 28,704.92                             | 39,731.86                                 |                                            |              |
| Prorated leave cost                                                         | 181,654.73<br>(85.493%)xTotal<br>Leave | 30,824.34<br>(14.507%)xTotal<br>Leave | (Total Leave-<br>212479.07)               |                                            |              |
| Adjusted total costs                                                        | 1,086,349.30                           | 184,334.11                            | N/A                                       | N/A                                        | 1,270,683.41 |
| Accounting method                                                           |                                        |                                       |                                           |                                            |              |
| Basic cost(actual)                                                          | 735,524.04                             | 124,804.85                            | 172,747.21                                | 243,280.00                                 | 1,276,356.10 |
| Fringe Acceleration(25.8% )                                                 | 189,765.20                             | 32,199.65                             |                                           | (Total fringe acceleration-<br>221,964.85) |              |
| Fringe Adjustment<br>(Basic cost(fringe)minus<br>Total Fringe Acceleration) | 21315.15                               |                                       |                                           |                                            |              |
| Leave acceleration(17.2%)                                                   | 126,510.13                             | 21,466.43                             | (Total leave acceleration-<br>147,976.56) |                                            |              |
| Leave Adjustment<br>(Basic cost(leave)minus<br>Total Leave Acceleration)    | 24770.65                               |                                       |                                           |                                            |              |
| Adjusted total costs                                                        | 1,097,885.17                           | 178,470.93                            | N/A                                       | N/A                                        | 1,276,356.10 |
| Delta from labor plan method                                                | -11,535.87                             | 5,863.18                              |                                           |                                            | -\$5,672.69  |

Table 3. FY 1997 Library Staff Cost.

| FY 1997 SM STAFF cost (\$)                                                        |                                       |                                        |                                            |                                               |            |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------|--------------------------------------------|-----------------------------------------------|------------|
| Labor plan method                                                                 |                                       |                                        |                                            |                                               |            |
|                                                                                   | direct                                | reimb                                  | leave                                      | fringe                                        | total      |
| Basic cost(actual)                                                                | 150,975.56                            | 321,877.60                             | 85,990.08                                  | 134,070.00                                    | 692,913.24 |
| Fringe Acceleration(23%)                                                          | 34,724.38                             | 74,031.85                              | 19,777.72                                  |                                               |            |
| Prorated leave cost                                                               | 33,770.21<br>(31.929%)xTotal<br>Leave | 71,997.58<br>(68.071%)x<br>Total Leave | (Total<br>Leave-<br>105,767.80)            |                                               |            |
| Adjusted total costs                                                              | 219,470.15                            | 467,907.03                             | N/A                                        | N/A                                           | 687,377.18 |
| Accounting method                                                                 |                                       |                                        |                                            |                                               |            |
| Basic cost(actual)                                                                | 150,975.56                            | 321,877.60                             | 85,990.08                                  | 134,070.00                                    | 692,913.24 |
| Fringe Acceleration(25.8% )                                                       | 38,951.69                             | 83,044.42                              |                                            | (Total fringe<br>acceleration-<br>121,966.11) |            |
| Fringe Adjustment<br>(Basic<br>cost(fringe)minus<br>Total Fringe<br>Acceleration) | 12,073.88                             |                                        |                                            |                                               |            |
| Leave acceleration(17.2%)                                                         | 25967.80                              | 55,362.95                              | (Total leave<br>acceleration<br>81,330.75) |                                               |            |
| Leave Adjustment<br>(Basic<br>cost(leave)minus<br>Total Leave<br>Acceleration)    | 4659.34                               |                                        |                                            |                                               |            |
| Adjusted total costs                                                              | 232,628.27                            | 460,284.97                             | N/A                                        | N/A                                           | 692,913.24 |
| Delta from labor<br>plan method                                                   | -13,158.12                            | \$7,622.06                             |                                            |                                               | -5,536.05  |

Table 4. FY 1997 SM Staff Cost.

| FY 1997 SM faculty cost (\$)                                             |              |                                     |                                      |                                          |               |
|--------------------------------------------------------------------------|--------------|-------------------------------------|--------------------------------------|------------------------------------------|---------------|
| Labor plan method                                                        |              |                                     |                                      |                                          |               |
|                                                                          | direct       | Reimb                               | leave                                | fringe                                   | total         |
| Basic cost(actual)                                                       | 2,691,216.94 | 1,468,151.04                        | 524,933.84                           | 1,115,692.00                             | 5,799,993.82  |
| Fringe Acceleration(21%)                                                 | 565,155.56   | 308,311.72                          | 110,236.11                           |                                          |               |
| Prorated leave cost<br>(64.703%)xTotal Leave                             | 410,974.01   | 224,195.94<br>(35.297%)xTotal Leave | (Total Leave-635,169.95)             |                                          |               |
| Adjusted Total Costs                                                     | 3,667,346.51 | 2,000,658.70                        | N/A                                  | N/A                                      | 5,668,005.21  |
| Accounting method                                                        |              |                                     |                                      |                                          |               |
| Basic cost(actual)                                                       | 2,691,216.94 | 1,468,151.04                        | 524,933.84                           | 1,115,692.00                             | 5,799,993.82  |
| Fringe acceleration (25.8%)                                              | 694,333.97   | 378,782.97                          |                                      | (Total fringe acceleration-1,073,116.94) |               |
| Fringe Adjustment<br>(Basic cost(fringe)minus Total Fringe Acceleration) | 42,575.06    |                                     |                                      |                                          |               |
| Leave acceleration(17.2%)                                                | 462,889.31   | 252,521.98                          | (Total leave acceleration-715411.29) |                                          |               |
| Leave Adjustment<br>(Basic cost(leave)minus Total Leave Acceleration)    | -190,477.45  |                                     |                                      |                                          |               |
| Adjusted Total Costs                                                     | 3,700,537.83 | 2,099,455.99                        | N/A                                  | N/A                                      | 5,799,993.82  |
| Delta from Labor Plan Method                                             | -\$33,191.32 | -\$98,797.29                        |                                      |                                          | -\$131,988.61 |

Table 5. FY 1997 SM Faculty Cost.

# APPENDIX H – BUDGETARY RESULTS FOR THE THREE TEST DEPARTMENTS

| LIBRARY    | CONTROL EXECUTED |                 | FY97<br>W/Ys | CONTROL        |                 | FY98<br>DOLLARS | EXECUTED        |            | FY98<br>W/Ys | CONTROL   |  | YEAR TO<br>YEAR<br>\$ EXEC | YEAR<br>WY<br>EXEC |
|------------|------------------|-----------------|--------------|----------------|-----------------|-----------------|-----------------|------------|--------------|-----------|--|----------------------------|--------------------|
|            | FY97<br>DOLLARS  | FY97<br>DOLLARS |              | VS<br>EXECUTED | FY98<br>DOLLARS |                 | FY98<br>DOLLARS | VS<br>EXEC |              |           |  |                            |                    |
| DIR/IR     |                  | \$1,094,804     | 26.58        |                | \$1,155,950     | \$916,569       |                 | 23.23      |              | \$239,381 |  | -\$178,235                 | -3.35              |
| IR         |                  | \$176,403       | 4.55         |                |                 | \$214,835       |                 | 5.36       |              |           |  | \$38,432                   | 0.81               |
| TOTAL      | \$1,371,729      | \$1,271,207     | 31.13        | \$100,522      |                 | \$1,131,404     |                 | 28.59      |              |           |  | -\$139,803                 | -2.54              |
| COMP CTR   |                  |                 |              |                |                 |                 |                 |            |              |           |  |                            |                    |
| DIR        | \$1,603,006      | \$1,484,029     | 27.98        | \$118,977      | \$1,378,770     | \$1,071,624     |                 | 19.27      |              | \$307,146 |  | -\$412,405                 | -8.71              |
| IR         |                  | \$243,913       | 4.1          |                |                 | \$253,175       |                 | 4.22       |              |           |  | \$9,262                    | 0.12               |
| RM         |                  | \$137,639       | 3.32         |                |                 | \$641,718       |                 | 12.2       |              |           |  | \$504,079                  | 8.88               |
| TOTAL      |                  | \$1,865,581     | 35.4         |                |                 | \$1,966,517     |                 | 35.69      |              |           |  | \$100,936                  | 0.29               |
| SM STAFF   |                  |                 |              |                |                 |                 |                 |            |              |           |  |                            |                    |
| DIR        | \$247,574        | \$264,948       | 7.24         | -\$17,374      | \$261,691       | \$303,220       |                 | 8.14       |              | -\$41,529 |  | \$38,272                   | 0.90               |
| IR         |                  | \$83,356        | 2.27         |                |                 | \$85,901        |                 | 2.89       |              |           |  | \$2,545                    | 0.62               |
| RM         |                  | \$319,936       | 10.05        |                |                 | \$292,728       |                 | 8.33       |              |           |  | -\$27,208                  | -1.72              |
| TOTAL      |                  | \$668,240       | 19.56        |                |                 | \$681,849       |                 | 19.36      |              |           |  | \$13,609                   | -0.20              |
| SM FACULTY |                  |                 |              |                |                 |                 |                 |            |              |           |  |                            |                    |
| DIR        | \$4,073,750      | \$4,124,642     | 38.99        | -\$50,892      | \$3,177,927     | \$3,237,588     |                 | 29.18      |              | -\$59,661 |  | -\$887,054                 | -9.81              |
| RM         |                  | \$2,034,630     | 19.5         |                |                 | \$1,751,167     |                 | 16.4       |              |           |  | -\$283,463                 | -3.10              |
| TOTAL      |                  | \$6,159,272     | 58.49        |                |                 | \$4,988,755     |                 | 45.58      |              |           |  | -\$1,170,517               | -12.91             |

NOTE 1 - AP control combined DIR & IR. NOTE 2 - Control from 97 to 98 reduced \$700K IS program transfer & 6.5% reduction.



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